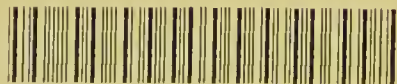




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FACTS AND OBSERVATIONS

RELATIVE TO THE

FEVER

COMMONLY CALLED PUERPERAL.

BY

JOHN ARMSTRONG, M. D.

MEMBER EXTRAORDINARY OF THE ROYAL MEDICAL SOCIETY
OF EDINBURGH, AND ONE OF THE PHYSICIANS TO
THE SUNDERLAND DISPENSARY.

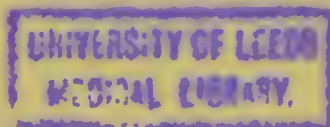
To communicate what I have tried, and leave the rest to others for further enquiry, is all my design in publishing these papers.

Sir Isaac Newton's first Advertisement to his Optics.

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1814.



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TO

JOHN RAMSAY, M. D.

SENIOR PHYSICIAN OF THE NEWCASTLE-UPON-TYNE
INFIRMARY.

My dear Sir,

Allow me, thus publicly, to return you my thanks for the encouragement which you have given me in the prosecution of this little work, and the approbation you have expressed of the principles and practice that it contains; and, having now brought it to a conclusion, I take the liberty of dedicating it to you, as a testimony of my high respect for your professional talents, and your private virtues.

With the sincerest wishes for your happiness, I am, dear Sir,

Your obliged and faithful friend,

JOHN ARMSTRONG.

WEARMOUTH WALK, SUNDERLAND, }
December 18th, 1813. }

PREFACE.

UNDER the common term puerperal fever are comprehended, in the following work, both the ordinary peritoneal inflammation, and the low malignant fever, of lying-in women, and these are considered as modifications of the same disease. Though the reasons advanced for this nosological arrangement should not be thought perfectly conclusive by some readers, the practice recommended will nevertheless remain unaffected, as it will, I trust, be fully proved that the same method of cure is alike applicable to the peritoneal inflammation, and the low malignant fever.

There still exists great discrepancy of opinion among writers of celebrity respecting the nature and treatment of the fever usually denominated puerperal; and it was the conviction that this difference has given

rise to much doubt and indecision, on points of vital importance, which first induced me to attempt to establish, or rather to illustrate, something like general principles, upon which the practitioner may act at the bed-side of the patient with some degree of certainty and promptitude.

Observations and dissections have equally led me to believe, that fever, of whatever kind, is generally connected with local inflammation, and that, for the most part, the local inflammation ought to constitute one of the principal considerations in forming a rational and correct plan of treatment. And as, by thus viewing fever through the medium of morbid anatomy, I have been enabled to correct many prejudices and errors of my education, and to render my general practice far more simple and satisfactory, I now, with the hope of being in some measure useful to others, offer this small treatise to the world, as the first of an intended series of practical illustrations of fever, drawn from clinical facts and anatomical investigations.

To have retained the manuscript some time longer, and carefully revised every page before publication,

would have given me great satisfaction, but the facts in my possession seemed so very important, that I felt it an imperious duty to lay them before the profession with as little loss of time as possible; perhaps I may be permitted to hope, that this consideration will lead the reader to make sufficient allowance for inaccuracies in the composition.

As every essay of this kind must receive considerable advantage from the liberal and enlightened remarks of criticism, I shall pay the strictest attention to public animadversion, and shall also consider myself favored by any professional gentleman who may transmit to me observations calculated to improve the work.

Anxious to collect all the evidence in my power on this interesting subject, I have applied to those practitioners in the neighbourhood who have had opportunities of treating puerperal fever, and it gives me great pleasure here to offer them my best acknowledgments for their valuable communications. The results of my own practice, thus strengthened by the evidence of my friends, will, I hope, be abun-

dantly sufficient to confirm the treatment recommended in these pages.

Before concluding this preface, I wish particularly to observe, that, in conjunction with very copious, and sometimes repeated, blood-letting, I have given as large and frequent doses of purgative medicines, especially of calomel, in acute inflammations of the stomach, liver, and bowels, as in puerperal fever, and with the same successful results.

Should this little dissertation prove the mean of checking the ravages of puerperal fever, its utility must be attributed to the advantages which I have derived from the labours of my predecessors, to the progressive state of medical science, and particularly to the occasions which have presented themselves in the course of my practice. The principal lights, if such they may be deemed, have thus been conveyed to me, and I only claim the humble office of reflecting them upon the important subject which occupies the following pages.

J. A.

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Febres puerperarum similes sunt aliis febribus, et similem
medendi rationem postulant. Principio sæpe convenit venam in-
cidere. Gulielm. Heberden Commentar. de morb. hist. et cu-
rat. p. 339.

FACTS AND OBSERVATIONS

RELATIVE TO THE

F E V E R

COMMONLY CALLED PUERPERAL.

THE following facts and observations, offered with great deference to the faculty, relate to an interesting disease, which not long since appeared among lying-in-women, in some parts of Sunderland, and the vicinity, though at the same time the remarks are intended to bear more or less upon the general phenomena and treatment of the fever usually denominated puerperal.

The complaint, which so recently excited alarm, generally occurred about twenty-four or thirty hours, and seldom later than four days, after delivery. It did not seem to depend upon difficulty of labour, for in most of the women in whom it occurred parturition was remarkably easy, and the placenta was cast off after a proper interval, and without more than usual pain. Nor was the lochial discharge, before the attack, in any way apparently affected. The disease was ushered in by very slight shiverings, or rigors, by oppression at the præcordia, by vomiting, retching, or nausea, and by considerable anxiety of mind. When the shiverings or rigors abated, which were often very short, the skin became universally hot and dry, and the thirst urgent. The tongue was much paler than usual, and appeared as if it had been recently rubbed, or dusted with a very fine whitish powder, in some few instances, however, the tongue was tolerably clean and moist about the edges, and this was more especially the case when vomiting frequently occurred. The matter thrown up, consisted of the ingesta, mixed with mucus, and yellow or greenish bile.

The pulse was seldom less than 120 in the minute, and rather full, tense, and vibrating, or very small, sharp, or somewhat wiry.

The countenance at this period assumed an inexpressible anxiety, the lips were pale and parched, and there was a kind of livid stripe under each eye, but the cheeks were flushed with a circumscribed redness, like that which is observed in the true hectic. The respiration soon became hurried, and the patient often sighed heavily, was restless, and turned from one part of the bed to another, or lay upon her back, and constantly moved her head from side to side, or suddenly lifted up her hands, and threw them down again with some force, upon the bed-clothes. Commonly a little before, or at the very commencement of the shiverings or rigors, there was in the lower part of the belly more or less pain ; occasionally it was very acute, shooting in the direction of Poupart's ligament, and through to the back and loins. In some instances, the pain was deep and obtuse, and more confined to one particular part ; but in every case, it was aggravated by pressure in and about the

hypogastric region. However limited in its extent at first, it afterwards gradually spread over the surface of the abdomen; which became tender to the touch, tumid, and tense.

In three cases only I witnessed that extraordinary enlargement of the abdomen, so particularly noticed by Dr. John Clarke, in his dissertation on the low epidemic of lying-in-women;* but I find that it was a symptom of far more frequent occurrence to Mr. Gregson, a surgeon, of Sunderland, who has had a very extensive field for observation. Some substances, resembling hard bands or chords, passed completely across the abdomen, and could be distinctly traced beneath the muscles by moderate pressure of the fingers. These last appearances, as far as I know, have not been noticed by any practical writer, though in the cases which fell under Mr. Gregson's care, some of which I saw, the appearances above described were very often found. The secretion of

* Practical Essays on the Management of Pregnancy and Labour, and on the inflammatory and febrile Diseases of Lying-in Women. By John Clarke, M. D. Second edition, London, 1806. Consult page 116.

the milk was nearly suspended soon after the attack, the breasts became flaccid, and the mother, so lately all solicitude about her child, now seldom enquired after it,* and indeed seemed almost insensible to those things which before most deeply interested her feelings. The lochial discharge either disappeared or only issued in small quantity, and was very dark and uncommonly offensive. The urine was scanty and high coloured, but generally passed without much pain. The bowels were constipated and flatulent, and in two instances something similar to the globus hystericus was observed.† Though all the patients were restless in the extreme, seldom obtaining a moment's sleep, yet they never complained of violent pain in the head, but of an uncomfortable aching and lightness there. The eyes, when the fever was at its acmé, seemed rather brighter than na-

* Dr. John Clarke has stated this indifference of the mother about her child as a common symptom. Consult page 110.

† Willis enumerates distentions resembling hysterick passions among the symptoms of puerperal fever. Consult an abridgement of his works, printed, with the allowance of the college, by T. Bassett, T. Dring, C. Harper, and W. Crook, in 1692. See page 632 and 634, in particular.

tural, and the pupils were slightly dilated. The whole train of symptoms already described may, in a practical view, be called the first stage of the disease—the stage in which alone a fair opportunity is offered to the practitioner of saving the life of the patient.

This state of febrile excitement, in most of the cases which lately occurred, seldom continued longer than fifty hours, and in some it terminated much sooner. When the disease was not impeded at this period, it passed into what may be termed the second and last stage ; which, toward the close, was marked by an exceedingly great prostration of all the vital powers.

But the first approaches of this fatal stage were most clearly indicated by the rising of the pulse, which then generally ranged from between 140 and 160 in the minute, and was very soft and compressible ; it feebly struck the sides of the artery, and gave the idea that the heart was labouring hard to keep up the force of the circulation. About twelve

hours before death, the pulse became thready, fluttering, and irregular, and so rapid as not to be correctly numbered.

For some time after the accession of the second stage the skin remained at an increased temperature and dry, but then the patients almost constantly complained of chilliness. The cheeks were alternately flushed and deadly pale, the eyes lost their lustre, the pupils were much dilated, and a kind of dewy perspiration stood upon the face and forehead. The pain gradually and entirely receded from the surface of the abdomen, when it usually happened that dark, slimy, and very fetid stools were discharged from that time onward. The thirst was unceasing, and when any liquid was offered, the patients hastily seized the vessel, and glutted down its contents, as if they had previously been expiring for want of drink. The tongue for the most part was brown, or rather black and parched, and had apthæ upon it, which even appeared about the edges of it at an early period. In one very bad case, however, the tongue continued clean and moist to the last, but there was an almost perpetual

vomiting throughout the second stage, though only a slight nausea occurred in the beginning, and very little vomiting in the rest of the first stage. Indeed vomiting was always more urgent in the last than in the first stage of the disease, and the matter then thrown up very much resembled coffee-grounds, and was offensive to the smell.* The teeth and gums were crusted with dark, slimy sordes, and the breath was disagreeable, as if it had been tainted with mercury. Throughout the complaint there was a short teasing cough, but this was more especially the case in the last stage, when the respiration grew very short, feeble, and frequent, and the alæ nasi were thrown into perpetual motion.

Soon after the advancement of the second stage, the patients began to talk incoherently, they frequently made attempts to get out of bed, and occasionally, after having lain still a short time, suddenly started, and spread out their hands, which were

* Compare this with that appearance of the stools which Mr. Wolfe, Surgeon, of Chester-le-Street, considers in another part of this work as one of the diagnostics of the disease.

then very tremulous, as if to ward something off that was approaching them. About this time, two patients became gradually collected, complained of no pain whatever, looked and spoke cheerfully, and flattered themselves that they would soon be well ; this illusion continued till within an hour or two of their departure, rendering them completely insensible to their real situation ; and even to friends, though warned by the medical attendant, their death was at last unexpectedly sudden. But in three other unfavorable cases, the light wanderings of the mind which took place at an early period of the second stage, were not succeeded by a state of serenity, but by a low muttering delirium, speedily followed by a stupor, in which the patients lay with their eyes half-closed, and could not be roused from it, but by loud speaking, upon which they started as from a disturbed sleep, uttered some vague and hasty expressions, and then sunk into the same condition as before. A few hours before death, in these cases, some dark scattered petechiæ appeared, and the skin was in that peculiar state which accompanies the last stages of tetanus, and the nervous fever of in-

toxication,* the whole surface felt soft, relaxed, and clammy, and the hand glided almost as smoothly over it as if wet by soap and water. In the above three instances, also slight stertorous breathing occurred near the termination of the disease, and, last of all, general though not violent convulsions.

This complaint, when not arrested by art, ran its course in about five days, and in one case, in a much shorter time. Soon after death, the bodies became rather livid and very offensive to the smell, and the abdomen immensely distended. It is to be regretted that no examination could be obtained, as morbid dissection might perhaps have thrown some additional light on the nature of the disease. In the course of practise, when apprehending that advantage might be derived from anatomical investigation, I have frequently had to lament that I could not obtain permission from relatives to examine the body of the deceased. Though one cannot but respect those feelings which venerate the dead, yet it would

* The disease which Dr. Sutton, in his valuable publication, has designated *Delirium Tremens*. See the *Edinburgh Medical Journal*, for July, 1813.

be well for society, if the consideration of the general good were permitted to operate so as to overcome, on such occasions, the private sympathies of our nature. And this is the more to be desired, for, till it can be accomplished, medical science must necessarily be retarded upon those very points respecting which it is most needful that it should rapidly advance. But to return from this digression, which the importance of the subject has led me to make.

From extensive inquiries, I have good reason for believing that a similar disease has also appeared among lying-in-women, in some other places, in the counties both of Durham and Northumberland, especially within the last twelve months. Dr. Ramsay, in particular, informed me that one gentleman has lately witnessed several distressing cases in the vicinity of Newcastle ; and, it is a fact worthy of particular notice, that it has occurred to some individuals, while it has been entirely unknown in the practise of others living in the same neighbourhood. Dr. Gordon remarked something of the same kind many years ago, when a puerperal fever raged at

Aberdeen, and discovered that practitioners attending one patient labouring under the disease, carried the contagion to other women, whom they afterwards attended in parturition ; and I am now well convinced, that when puerperal fever is once generated, there is almost always cause to apprehend its being communicated to other puerperal women, especially by accoucheurs and nurses who have previously waited upon affected persons. This is an important consideration, as it respects the prevention.

Notwithstanding the many discoveries in chemistry, we are yet entirely unacquainted with the properties of the atmosphere, which are supposed to have an agency in the production of contagious and epidemical diseases. However, that this matter may still be open to investigation, I have given some account, in the appendix, of the states and changes observed in the weather when this distemper was most predominant. It may, also, be worthy of remark in this place, that febrile, inflammatory, stomachic, and intestinal affections were common at the same time.

My principal reason for having so minutely described the symptoms, is to mark the differences between the first and second stage, being persuaded that those differences may, by proper attention, be generally discerned in this kind of fever, though, perhaps, in a practical point of view, they have not been sufficiently regarded by some authors.

The succeeding observations will be of a more desultory and general nature, and though intended to include most particulars of importance relative to the diagnosis, prognosis, and prevention of puerperal fever, they are more especially designed to exhibit the methods of treatment which have been so successfully employed in overcoming the disorder above mentioned.

DIAGNOSIS.



IF in a therapeutic view, as shall be afterwards shewn, the puerperal epidemic should be thought *essentially* different from the ordinary peritonitis of lying-in-women, the distinction will, most assuredly, be made at the hazard of life. The admirers of nosological minuteness, however, may contend that there are circumstances in the rise, progress, and sequel of the epidemic which sufficiently mark it from the more simple peritoneal affection, but I can assert, with some degree of confidence, that if these circumstances be allowed to influence the practise very materially, they will be found exceedingly fallacious at the bed-side, however plausible they may seem in books. These, then, being the firm convictions of my mind, it is only deemed requisite to distinguish particularly puerperal fever from milk-fe-

ver, after-pains, inflammation of the uterus, and that ephemera called the weed, to which child-bed women are very liable.

The milk-fever is known, principally, by throbbing, irritation, and enlargement of the breasts, and by the pain being confined to the mammæ, during the continuance of the febrile symptoms ;—whereas in the puerperal fever, pain begins and continues in the abdomen, while the breasts, for the most part, are neither distended nor uneasy, but much more flaccid than natural. Besides, there is considerably more lassitude and weariness, a more urgent nausea and sickness, and a much quicker pulse in the commencement of the puerperal than of the milk-fever.

In after-pains, at certain times, pressure can be borne without uneasiness, but in puerperal fever the belly is sore to the touch, and pressure always greatly aggravates the pain. In the first, there is no accession of fever, nor an accelerated pulse, the pains are grinding like those of labour, and, like them, they are succeeded by intervals of complete

ease ;—on the contrary, in the last, there is an accession of fever marked by an uncommon rapidity of the pulse, and the pain is without intermission.

Simple hysteritis may be known by a burning, throbbing pain, fulness, and oppressive weight in the region of the uterus, by frequent calls to make water, which is passed with great pain and difficulty, * by the uterus itself feeling hard, stony, and enlarged, and being exquisitely sensible when pressed upon, by violent pains darting through to the back, and down to the groins and thighs, and by the soreness and fulness being more confined to the lower part of the abdomen throughout the attack than in puerperal fever. † When the above symptoms oc-

* It is remarkable, that not one instance has been observed of any woman, who had an abscess in the breast, being attacked with this (puerperal) fever ; nor any who, in consequence of their labour, had such an affection of the bladder as to occasion a suppression of urine. *An Introduction to Practice of Midwifery*, by Thomas Deiman, M. D. fourth edition, London, 1805, vol. 2. p. 477, 478.

† In inflammation of the uterus, there is a sense of pain and tension in the hypogastric region, and the pain is increased upon pressure there, or upon touching the os uteri. *Baillie's Morbid Anatomy*, third edition, p. 379.

cur with increased heat, thirst, quick pulse, sickness of the stomach, and suppression of the lochia, there can be no question as to the seat of the disorder. Nevertheless, however plain these distinctions may appear upon paper, or in lectures, it is certain from dissections, that hysteritis often constitutes a part of the abdominal inflammation attendant upon puerperal fever.* Nor will this seem at all surprising, when we reflect that the uterus, after the separation of the placenta, is in fact a kind of recently wounded member, to which inflammation may be readily imparted, especially if the lochial discharge, as generally happens in puerperal fever, be diminished or suppressed. When simple hysteritis does take place, Denman judiciously observes, that it is much less dangerous, particularly after parturition, than an equal extent of inflammation in any other of the abdominal viscera, because the uterus, as a kind of

* Consult Denman, vol. 2. p. 494.

When the uterus becomes inflamed, it takes place almost always under the same circumstances, viz. very soon after parturition. The inflammation is sometimes confined to the uterus itself, or its appendages, but the peritonæum in the neighbourhood is most commonly affected, and frequently over its whole extent. Baillie's *Morbid Anatomy*, p. 362.

outlet, admits of a return of the lochial discharge, which may lessen, and even remove the disease.

The ephamera called the weed is ushered in by strong rigors, which, commonly in less than an hour, are followed by heat, thirst, and general excitement, the whole train of symptoms being terminated in twenty four or thirty hours by profuse perspiration; the absence of abdominal irritation is sufficient to prevent the possibility of mistaking this disease for puerperal fever.

Severe griping pains, occurring in the child-bed state, with fever and tenesmus, have been considered by some as the characteristics of enteritis, but I cannot help suspecting, that these nice discriminations are more specious than useful.

Having thus endeavoured to distinguish puerperal fever from milk-fever, after-pains, hysteritis, and the ephamera, I shall now be more at liberty to pursue the consideration of the disease itself; and may, perhaps, hope that the inexperienced student will be

prevented from confounding it with the forementioned complaints.

Puerperal fever sometimes creeps on in a very insidious manner, the abdominal inflammation being masked by an oppressive languor, and a diminished sensibility of the nervous system ; yet, in such cases, the disease may generally be detected by the great frequency of the pulse, quickened respiration, an uneasy sensation at the pit of the stomach, and by the patients shrinking when pressure is applied over the abdomen, though they previously made little or no complaint of pain in that part.

My friend, Mr. Wolfe, of Chester-le-street, who has paid great attention to puerperal fever, considers the appearance of the alvine evacuations as one of the best diagnostics. Whenever, therefore, febrile symptoms take place, with pain and soreness of the abdomen, after parturition, he immediately gives the patient a brisk purge, and if, when the contents of the lower part of the bowels have been dislodged, the stools should be of a dark colour, somewhat re-

sembling coffee-grounds, very copious, of the consistence of thick gruel, and of a fetid smell, he is then confirmed in his opinion, that he has to encounter an affection requiring more than ordinary activity of treatment ; and subsequent events have always fulfilled his predictions.*

As an additional proof of the justness of the above remarks, I have always, on inspecting the evacuations, found them dark, slimy, fetid, and unexpectedly large, indeed, excepting that they are generally mixed with hard pieces of scybalæ, they have neither the ordinary smell, consistence, nor colour of natural fecal stools, but seem to be composed, for the most part, of some excrementitious matter thrown out in considerable quantity, in the course of the disease. †

In a great number of instances, it is remarkable how very indifferent patients are to surrounding ob-

* Consult Mr. Wolfe's communication in the appendix.

† Quæ excernuntur nigra sunt, et interdum perquam mali odoris. Hippocrates. As translated by Hulme, in his Treatise on Puerperal Fever.

jects, and this indifference is of such a nature, as not only to extend to objects in general, but to render them inattentive even to the suckling of their infants; this last mentioned circumstance has been imputed by some to the suppression of the lacteal secretions, but this is certainly not the cause, since I have seen it in the very commencement of some cases, in which the secretion of the milk was but little affected. Whatever may be the cause of this curious phenomenon, it indicates an extraordinary power of disease, which can in a few hours paralise the maternal affections.*

But to conclude this part of the subject, abdominal pain and soreness, short anxious breathing, uncommon quickness of the pulse, increased temperature, anorexia, prostration of the vital powers, suppression or diminution of the milk and lochia, and an unnatural condition of the excrements are the chief pathognomonic signs of the disease. Be-

* Infantes de ope nostra ac de divina misericordia plus merentur, qui in primo statim nativitatis suae ortu plorantes ac flentes, nil aliud faciunt quam deprecantur. Cyprian, Epist.

sides, if the apartment be ever so well cleaned and ventilated, and the linen daily changed, there is still an offensive smell about the bed of the patient ; and in the first stage, particularly of the more severe cases, a peculiarly striking expression of the face, which I have not seen in any other complaint ; the countenance manifests alarm and solicitude, as if the person affected was the subject of two different emotions at the same time ; at least I am not able to convey a more definite conception of the physiognomy soon after the attack of the disease. However necessary an accurate diagnosis may be for the student, so very singular are the appearances of puerperal fever, that the medical man who has had opportunities of observing them, can be in no danger of confounding this with any other distemper.

PROGNOSIS.

FROM the days of Hippocrates * to the present time, the puerperal fever has been esteemed imminently dangerous, indeed, some writers have not hesitated to place it next to the plague in the catalogue of diseases; and though I perfectly agree with the common opinion, as to its danger, and am convinced that part of its fatality may be fairly ascribed to its natural tendency, yet I am fully persuaded that it may generally be arrested in the beginning, and that much of its fatality has been occasioned by our great caution, timidity, and indecision in treating it. In truth, it is an extraordinary malady, and requires extraordinary remedies, rapid as well as powerful in their effect, for, if the first twenty hours from its

* Si mulieri pregnantī fiat in utero erysipelas, lethale est.

Hippocrates.

marked appearance be lost in doubt and hesitation, no human efforts, generally speaking, can afterwards atone for the error, and, on the contrary, if these golden moments be seized without delay, and an active treatment steadily pursued, it is my conscientious belief that there are few febrile disorders of the more serious kind, which afford the physician a fairer chance for the successful exercise of his functions.

Notwithstanding, in this disease it would only be proper that the physician should always give a guarded prognosis, and more especially when it is epidemical, since it has happened in this, as in every other epidemical fever, that cases have proved fatal, in defiance of the most prompt and judicious measures.

Dr. Foster has observed that there is often a treacherous remission about twenty four hours after the attack, and this, also, is often the case about the end of the third day ; whenever, indeed, any remission of pain takes place, the professional attendant must neither be betrayed into a sanguine decla-

ration of speedy recovery, nor into a supineness of practice, since, under such an apparent abatement, the disease sometimes secretly and rapidly advances to a state which admits of no relief.

It has been stated, by some authors, that the pain in general suddenly leaves the belly before puerperal fever ends unfavorably, but, from an almost hourly attendance upon many cases, I am inclined to believe that their assertions respecting this point have been too hastily made, and that the pain, in the majority of examples, gradually abates, and, in some, even continues distressing to the last. Occasionally, however, there can be no doubt but that there is a surprisingly sudden transition from the greatest suffering to the most perfect ease; when this happens with a cold, clammy skin, and a rapid, small, fluttering pulse, it must be looked upon as a fatal sign—as the last illumination of life.

It seems agreed by all accurate observers, that the earlier the attack the greater is the danger; and that those whose powers of feeling are much diminished

from the beginning, and who consequently complain but little, generally sink under the pressure of the disease. On the other hand, an excess of sensibility is always to be dreaded; for I have had opportunities of remarking, that those patients seldom recover who are tremblingly alive to every surrounding impression.* It is well known that unmarried women do not recover so well as married ones, the mental irritation necessarily attendant upon their situation considerably increasing the febrile excitement, and rendering them extremely restless.

On dissection, † the structure of the brain, as far as I know, has hardly ever been found much affected, yet the functions of that organ are sometimes greatly disordered early in the attack; the slightest approach to mental confusion or delirium is an inauspicious

* Women of delicate constitutions, very susceptible, and continually agitated by hopes and fears, are, of all others, the most subject to it, and recover with the greatest difficulty. *Practical Observations on the Child-bed Fever, &c.* by John Leake, M. D. fifth edition. vol. 2. p. 43.

† As the brain and nerves have seemed to be affected in some cases, soon after the attack, I did not fail to open the head, but its contents have always been in a natural state. Dr. John Clarke, p. 130.

sign, at any period of the complaint. Tremors of the limbs, startings of the tendons, a quick convulsive motion of the upper lip, an agitated countenance, with a hurried, unconnected manner of speaking, constant sighing attended with a tossing of the arms, pain and oppression of the chest, visual deceptions, imaginary strange sounds and voices, muttering, and stupor are among the most unfavorable symptoms.

Dr. Foster, on examining the bodies of two women, who apparently died of puerperal fever, discovered that the omentum in both was lacerated near the middle, almost entirely across from side to side; * it is, however, readily acknowledged that such lesions are exceedingly uncommon, yet since when they do happen they place the patient beyond the power of art; and, as nothing but actual dissection can prove that they do not exist in any case, we should, in every instance, be the more cautious in passing a prognosis.

* The Principles and Practice of Midwifery.—By Edward Foster, M.D. late Teacher of Midwifery in the City of Dublin. Edited by James Simms, M.D. 1781. Consult p. 297.

Irreparable derangements in the structure and functions of the abdominal viscera are often made in the course of twenty-four hours,* the time, therefore, which the disease has continued, ought materially to influence the opinion to be delivered. In one robustly formed young woman, whom I was called to visit about three years ago in the last stage, the whole term occupied from the commencement to the fatal close of the fever did not exceed forty eight hours ; and it is certain, from indubitable facts, that it sometimes destroys as rapidly as the plague itself.† By referring to the case of Martha Watson, in the appendix, it will be found, that a patient may be saved, by vigorous treatment, so late as thirty hours after a violent attack, but it is well known that such occurrences are very rare, yet this melancholy

* When the patient had been ill for a longer space than twenty-four hours, before I was sent for, I generally found that the disease was no longer in the power of art. *A Treatise on the Epidemic Puerperal Fever of Aberdeen*, by Alexander Gordon, M. D. p. 14.

† As far as my experience goes, the same degree of fever would not destroy, in the same length of time, a patient not in the puerperal state. Indeed, scarcely any fever is known, except the plague, which has killed so rapidly. Dr. John Clarke, p. 140, 141.

Also, consult the *Treatise* of Dr. Gordon, above quoted, p. 74.

truth should never make any of us desist from strenuous exertions, however late we may be called in, as the most surprising recoveries may now and then be effected by proper means and steady perseverance.

At any time when the disease has existed more than twelve hours, frequent strong rigors are highly alarming; but, in some cases, there is a morbid sensibility of the surface to external impressions, which must not be confounded with the chills denoting the approaches of gangrene or suppuration, as it may always be distinguished from them, by the pulse remaining unaltered in force and frequency. Almost immediately after copious venesection, patients sometimes become cold, faint, and shivery, but these symptoms need not alarm the attendant, provided the operation has been opportunely performed, for he will then almost invariably find them gradually give way to a general warmth and moisture of the surface, succeeded by a reduction of the pulse; but if, on the other hand, the lancet has been indiscreetly used, when suppuration or mortification was about to commence, or had actually commenced, nothing

can be more dangerous than the continuance of the coldness, faintness, and shivering, especially if attended by frequent sighing, and a very quick, weak, and irregular pulse.

An open state of the belly immediately before delivery, generally tends to mitigate the severity of an early attack, and a diarrhœa coming on afterwards, sometimes carries off the disease, whereas, on the contrary, costiveness is always an unfavorable circumstance, increasing, in no inconsiderable degree, the difficulty of the cure. An experienced friend of mine lately attended a patient whose bowels had not been loosened for more than a week before her labour; the case was unusually violent, and resisted every remedy.*

The state of the respiration, pulse, stomach, and skin must, in a great measure, regulate the prognosis. When the respirations are short, feeble, and amount

* A person seized with this fever, having had a costive body during pregnancy, is threatened with more danger than if the belly had been regular. Hulme, p. 32.

to sixty in the minute ; * when the pulse becomes extremely weak and compressible, and rises above one hundred and sixty ; when there are frequent vomitings of a coffee-coloured fluid, † an increase of abdominal distention, ‡ repeated shiverings, a universally cold damp skin, and a very rough, dry tongue, the case may be pronounced desperate ; on the contrary, when the respiration grows easy, deep, and slow ; when the pulse comes down, and ceases to be variable ; when the stomach retains the food and medicine, the stools continue copious, the tension and pain of the belly abate ; when the skin breaks out into a warm sweat, the tongue becomes clean and moist, and especially when fresh discharges of the lochia, § and

* It appears that the number of respirations made in a given time, differ considerably in different men. Dr. Hales reckons them at twenty in a minute.—The average of all is twenty. Dr. Thompson's Chemistry, second edition, vol. 4. p. 712.

† When there were symptoms of mortification, what the patient vomited was black, and had a strong resemblance to the grounds of coffee. Gordon, p. 10.

‡ A subsidence of the abdomen, after copious stools, and with a moist skin, is a fortunate alteration for the patient ; but that circumstance without evacuations, and a dry skin, threatened the utmost danger. Denman, vol. 2. p. 469.

§ The suppression of the lochial discharge seems to be in consequence of the disorder, and the return, in consequence of its abatement. Hulme, p. 14.

secretion of the milk take place, the symptoms fully authorise a favorable opinion.*

If the pulse can be kept under one hundred and twenty in the minute for the first twelve days, the patients will generally do well; but, if the pulse continues very quick after the abdominal symptoms have entirely disappeared, affections of the chest,† and of the glandular system, or deep seated suppurations may be dreaded.‡

* It is likewise a favorable sign when the patient can turn herself; for in dangerous cases, the patient generally lies in one posture, unable to turn herself in bed. Gordon, p. 75.

† If any disease hath taken its immediate origin, as it were, out of the puerperal fever, and been combined with it, it hath been the peripneumony. I have met with several instances of this kind. Hulme, p. 15.

‡ Some of those who survived, recovered very slowly, and were affected with wandering pains, and paralytic numbness of the limbs, like that of chronic rheumatism. Some had critical abscesses in the muscular parts of the body, which were a long time in coming to suppuration, and when broke, discharged a sanious ichor. Leake, vol. 2. p. 53.

PREVENTION.

WHEN puerperal fever is epidemical, the accoucheur should make it a point of duty to have the apartments of the women whom he is engaged to attend properly cleaned and ventilated before confinement ; to prevent nurses and other persons who have been with those affected, from waiting upon or going near any patient about to be delivered ; to pay the most scrupulous regard to the cleanliness of his own person, using daily ablutions of the whole body, and frequent changes of linen and dress.*

In another part of this work, I shall endeavour to shew that puerperal fever is always infectious ; how-

* I had evident proofs that every person, who had been with a patient in the puerperal fever, became charged with an atmosphere of infection, which was communicated to every pregnant woman, who happened to come within its sphere. Gordon, p. 63, 64.

ever this may be disputed by some, it is granted by all that it is so in many cases ; and, would it not, as it respects prevention, influence us to greater caution to consider it capable of being communicated by contagion in every case ? No harm can arise from this, and much evil may result from a contrary admission.

As anxiety of mind materially contributes to produce this disease, it should always, if possible, be timely allayed. But when puerperal fever is known to be prevalent, the greatest attention and address will be requisite to remove the solicitude of pregnant women ; for such is the constitution of human nature in general, that they are irresistibly drawn to the consideration of the existing calamity, though conscious that not to think of it would be best in their condition. If, therefore, an alarm be abroad, the practitioner must, above all things, aim to inspire the apprehensive patient with a complete confidence in his powers of prevention, nor must he ever use doubtful language upon the subject ; in fact, if he once betray the least fear, as to her security,

from that moment no faith will be placed in his professions.

Sedentary employments, too stimulating, or too spare a diet, night watchings, fashionable dissipations, and irregular habits of every kind, seem to predispose pregnant women to puerperal fever.* A nutritious diet, early rising, and regular exercise in the open air, are among the most efficacious means for preserving health,† and inducing an easy and safe labour. It did not escape the penetrative sagacity of Lycurgus,‡ the law-giver of ancient Sparta, that simplicity of diet, and an habitual action of the body during pregnancy, greatly favored the security of the mother and the strength of the offspring. And, I believe, that if these simple truths were more

* *Mulieribus præ cæteris animalibus hæc contingunt, et præsertim delicatis, vitamque umbratilem et mollem degere assuetis; ut et iis quæ teneræ valetudinis sunt, et facile in morbos labuntur.* Harv. Exercit. de partu.

† *Verum ad sanitatem tuendam, si ante cibum corpora moderate exercentur, mirum in modum prodest, at contra quies et otium diuturnum iis maximo nocumento est.* Galen de Euchymia et Cacoehymia.

‡ Consult Plutarch's Life of Lycurgus.

generally known and acted upon, there would be much less fatality in parturition.

As the retention of fecal matter in the intestines often greatly assists in the production of this disease, so the timely exhibition of purgative medicine may be reckoned one of the best preventatives. It is proverbial among child-bearing women, that castor oil is an excellent remedy for lessening the dangers incident to delivery ; and I have little doubt, that when the bowels have been kept open by it or any other purgative, the occurrence of fever has frequently been prevented. Many breeding women suppose their bowels to be in a proper state when they have only one scanty evacuation in the day ; so that, in the course of pregnancy, an extraordinary accumulation of feces takes place, as I have repeatedly witnessed. The professional person may be much deceived, who trusts to the reports of his patients in this respect. Nothing less than frequent inspections of the alvine evacuations can be at all satisfactory, since their quantity and appearance alone can regulate the extent to which purgatives

should be used as preventatives. As a general rule to which, however, there may be exceptions, never less than one very copious, natural stool should be procured in the day, throughout the whole term of gestation.* When a puerperal epidemic raged at Aberdeen, Dr. Gordon found that a purging bolus of calomel and jalap given in the morning, the day after delivery, either prevented the disease entirely, or answered this good purpose, that the cure was anticipated before the attack.†

During labour, care should be taken not to irritate the os uteri by frequent rude and unnecessary examinations; neither ought the placenta to be extracted too hastily, for much mischief may result from such procedure;‡ hæmorrhages may immediately follow, the uterus itself may receive some serious injury, or it may contract upon a small portion of

* Consult Mr. Fife's very sensible communication in the appendix.

† See Gordon, p. 100.

‡ Rude treatment of the os uteri, and a violent or hasty separation of the placenta, will often give rise to this disease. Denman. Vol. 2. p. 461.

the placenta left attached to its interior ; any of which things may act as an exciting cause in a person predisposed to this fever. My respected friend, Mr. Ferguson, of Bishopwearmouth, who has been in a most extensive practice of midwifery, for nearly forty years, has hardly ever seen puerperal fever succeed uterine effusions merely arising from a defect of contractility in the uterus, but has often seen it follow those hæmorrhages which arose from an injury sustained by that organ. This is an important fact, and perhaps may, in part, explain the existing discrepancies of authors, some of whom assert that floodings occasion,* and others that they prevent, the disease ;† at all events it suggests the propriety of using prophylactic measures, where large discharges have taken place after difficult labours, or in consequence of violence suffered by the uterus. It is not, I hope, presuming beyond my province

* Mr. White on the Management of Pregnant and Lying-In Women. p. 219.—Dr. Manning on Female Diseases. p. 371.

† Those gentlemen themselves know best on what foundation their opinion is grounded ; but, for my part, I found that large uterine effusions invariably prevented the epidemic Puerperal Fever which I have described. Gordon, p. 111.

when I admonish accoucheurs in general not to let the pressure of business induce them to extract the placenta too soon; nothing but an eruption of blood, threatening the very life of the patient, can justify its hasty and forcible separation. On the other hand, the after-birth, for obvious reasons, must not be allowed to remain too long. Dr. Hamilton, the experienced and judicious professor of midwifery in the university of Edinburgh, declares, in his lectures, that it cannot be left, with perfect safety, longer than an hour in the uterus, after the expulsion of the child.*

If cold has been applied to any great extent in uterine floodings, and a considerable re-action of the heart and arteries, with some degree of fever, is likely to succeed their suppression, the practitioner must be upon his guard, and not permit his patient to take strong drinks and food by way of re-

* As the life of the patient is never exempt from danger till the after-birth be extracted, no practitioner ought on any pretence to leave a woman even for a short space of time till that circumstance have taken place.—Hamilton's *Treatise on the Management of Female Complaints*, fifth edition, p. 188.

plenishing the system ; but he must insist upon a cooling regimen, and administer aperients till the inflammatory threatenings disappear. After severe, and especially after instrumental labours, two or three visits should be daily paid to the patients for some time by the professional attendants, that they may have proper opportunities of enforcing their directions, and of perceiving the very first approaches of any fever that may supervene ; but, indeed, a spare diet, cleanliness, ventilation, quietness, and an occasional purge will generally obviate danger.*

Celsus,† and other writers since his day, have recommended patients to be treated for a certain time after delivery as if they actually laboured under an inflammatory affection, or had received some wound in an important part of the body. In reality,

* Women are certainly not so often attacked with this fever after difficult labours, because of the particular care with which they are then managed, whereas after easy ones they are more unguarded. Denman, vol. 11. p.463.

† Reliqua curatio talis esse debet, qualis in inflammationibus, et in his vulneribus, quæ in nervosis locis sunt, adhibetur. A. Corn. Celsus. Glasgæ : Excidebat Gulielmus Bell, MDCCLXVI. Vide p. 357.

Women in child-bed ought to be managed not only as persons sorely wounded, but as having gotten a feverish indisposition. Willis, p. 636.

no advice can be more judicious or necessary, however it may be disregarded in general practice. The species of inflammatory diathesis which exists throughout the whole period of pregnancy,* together with the throes of parturition, bring the system into a state verging upon febrile excitement, which, no doubt, would be attended with considerable danger, were it not for the secretion of the milk, and the flowing of the lochia. If, therefore, we would lessen the risk of fever in general, and of puerperal fever in particular, the child should not be kept from the breast longer than twelve hours from the time of its birth; we should enjoin the strictest antiphlogistic regimen, and administer purgatives now and then, especially during the first four or five days, as that appears to be the term in which there is the greatest tendency to febrile disorders.† Every thing calculated strongly to excite should be withdrawn, such as noise, light, and heat. And at the same

* Hunter affirms that the blood is always sily in breeding women. See *a Treatise on the Blood, Inflammation, &c.* By the late John Hunter, 1st 2 volumes. London, 1812. Vol. 2, p. 69.

† The pernicious custom of binding the body too tight ought also to be avoided; as it will produce difficulty of breathing, head-ach, and oppression at stomach. Leake, p. 149.

time that the room should be kept at a moderate temperature and properly ventilated, we should be particularly careful to prevent currents of cold air from passing over the bed of the patient.*

The use of cordials cannot be too positively and repeatedly prohibited; since it is not uncommon for nurses to give the patients whom they attend a cup of burnt brandy, or caudle after delivery, and to add to the sago or gruel, which ought always to be taken in the simplest form, large portions of strong wine. And it is melancholy to think that such things are sometimes done expressly against the commands of medical practitioners. The deceptions practised by those persons, commonly called old experienced nurses, are hardly credible; in the presence of the physician, they will seem very desirous to carry all his orders into effect, but in his absence, either accommodate themselves to the whims of the capricious,

* There is nothing so great an enemy to a woman in travail, especially to her whose child is drawn away by violence, as cold.— And thereof cometh manie grievous accidents, as hysterical suffocation, painful fretting of the guts, fevers, and other mortall diseases. Johnson's Translation of the Works of Ambrose Parey. Printed in 1649. See p. 615.

or, appealing to their long experience, persuade the timorous patient to take a diet very different from that directed; and thus, between the hypocrisy of the one, and the weakness of the other, the deceit is successfully carried on, unless danger or accident should reveal it. The lives of many women, and the reputations of many accoucheurs have, I am fully confident, been sacrificed in this way. Whenever, therefore, professional men detect any thing like duplicity in the conduct of nurses, they should act in the most authoritative manner, immediately insisting upon their dismissal; for persons who once deliberately commit a dishonourable action can never be trusted with safety a second time.

Mismanagement in nursing is not confined to the higher, but extends to the middle and lower ranks of life, in which it has become an almost established custom to give distilled spirits and a flesh diet to women in child-bed.* Besides, in the first week of confinement, the rooms are crowded with a succession

* I have diligently observed that an over-hasty eating of Flesh, or of rich Food, has oftentimes brought these Fevers. Willis, p. 636.

of friends and visitants, who generally converse, over a large fire, till a late hour at night. As improprieties of this nature are often followed by disagreeable, and sometimes by fatal consequences to the sick, they cannot be too publicly and frequently exposed.

If, notwithstanding every possible precaution, there should be the slightest accession of fever after parturiency, and especially if the puerperal fever be prevalent at the time, or there be any circumstances in the patient which predispose to its attack, we ought to be extremely attentive, as any fever may pass into the puerperal, particularly where great anxiety and irritability exist.*

* After labour, the cavity of the abdomen is in part debilitated, from the great change it has undergone in passing from a state of great tension to a state of great flaccidity ; and if the woman catches cold, or receives infection, the mischief falls on the abdomen, as on the weaker part. *The Anatomy of the Absorbing Vessels of the Human Body.* Second edition. By William Cruikshank, p 119.

PATHOLOGICAL REMARKS.



AFTER what has been said, it may be thought by some, that I ought to endeavour to find out that cause from which this fever immediately proceeds and derives its specific character, but when I reflect how little is known about proximate causes, and how great the uncertainty of all reasonings *a priori*, I am induced entirely to avoid this part of the subject, especially as I conceive it to belong to metaphysical, rather than to medical science. Indeed, such discussions are far from being generally satisfactory, and, even when most ingeniously conducted, perhaps not more profitable than the long agitated disputes of the schoolmen, respecting the essences of things, which, in some respects, they seem to resemble. The history of medicine, like that of every other science, clearly shews that conjectures have seldom

led to useful discoveries ; but, on the contrary, have often allured from the investigation of facts, to the consideration of those obscure and disputable relations which things unknown bear to the known phenomena of nature. It has been well observed, by a sensible anonymous writer, that in physic, more than in any other department of human knowledge, facts are every thing, and theory nothing.* It is, therefore, my determination not to connect hypotheses of any kind with the plain evidences of symptoms and of dissections, by which, in my opinion, a true knowledge of medicine can alone be established, and from which my observations shall be strictly drawn.

If an unprejudiced professional man were called to attend a woman shortly after parturition, and found her labouring under an oppressive fever, the abdomen painful and distended, the skin hot, the tongue dry, the pulse very quick, the breathing hurried, and the milk and lochia diminished or suppressed ; and if he had the misfortune of seeing

* See the Eclectic Review for October, 1813, vol. 10, p. 343.

his patient fall a victim to the complaint, and, on accurately dissecting the body afterwards, discovered the most extensive traces of an abdominal inflammation, without any other appearances to account for the death of the patient, he would at once conclude that the disease, which baffled his skill, was of an actively inflammatory nature, and would determine for the future to be, if possible, more upon his guard, and to treat it, and every similar affection, with the greatest promptitude and decision; and such a conclusion and determination I would most earnestly recommend every medical person to form; first, because there is no disease more uniform than puerperal fever in the symptoms and morbid derangements which it induces; and, secondly, because it can only be combatted with the probability of success by antiphlogistic means. Almost every writer of eminence on puerperal fever has recorded the uniformity of the symptoms and morbid derangements; * and to prove the propriety and use-

* The operations of nature upon the human frame, in this disease, are the same in Britain, as in Greece; and continue the same at this day, as they were above two thousand years. This is likewise a clear proof of the im-

fulness of the antiphlogistic methods of cure, I might appeal to the works of Mauriceau, Burton, Peautau, Heberden, Denman, Hulme, Leake, and Gordon, which, collectively, constitute, in my estimation at least, a complete and satisfactory train of evidence upon the subject. Were I inclined, I might here also avail myself of the great candour of those authors who have treated puerperal fever as a putrid and typhoid distemper, their impartial and disastrous reports forcibly demonstrating that cordials and stimulants answer no good purpose.

Some writers, of deserved celebrity, having considered the epidemical malignant child-bed fever as specifically distinct from the more simple peritonetic fever of lying-in women, it, therefore, becomes a matter of great practical consequence to ascertain whether symptoms and dissections justify such a distinction.

mutability of puerperal fever, that it is an original disease, and hath been prevalent at all times, and in all climates. Hulme on Puerperal Fever, p. 96.

Also, respecting this point, consult Leake, vol. 2, p. 43. Home, *Clinical Experiments*, p. 67. and Gordon, p. 5, 6, 117, 118.

In the malignant fever, pain, tenderness, and fullness of the abdomen are generally discernible in the beginning, there is, likewise, a quick pulse, preternatural heat, head-ache, thirst, and vomiting, all of which symptoms appear in the peritonitic fever; but, in the malignant, we find a weariness, a deadly prostration of the animal functions, an overpowering oppression of the whole system, which are not so apparent in the common peritonitic fever, and which, together with the decidedly contagious nature of the former, have been thought sufficient grounds for classing it as a separate and distinct disorder. But, passing from symptoms, let us endeavour, by dissections, to develop the true character of this disease.

All the anatomical examinations which have been made on the bodies of those who died of the malignant epidemic, incontestibly prove that if there be any difference between it and the peritonitic fever, with regard to their inflammatory disposition, that difference merely consists in degree, the inflammation being more strikingly evident, and extensively

destructive in the former, than in the latter; and, for the truth of these affirmations, I refer, in particular, to the writings of Denman, Leake, Home, Hulme, and Gordon, in which it will be found that the viscera of the abdomen—the peritonæum, the omentum, the mesentery, the mesicolon, the liver, the stomach, the small and large intestines, the uterus and its appendages, the bladder, and even the pleura, and the lungs themselves have all, in their turn, been more or less affected by the inflammation attendant upon the malignant puerperal fever.

It has been demonstrated by some accurate dissections, that several quarts of a serous fluid, and large portions of coagulable lymph have been effused, in the course of a few days, into the cavity of the belly, during the progress of the low child-bed fever, and that, in those instances, the vestiges of inflammation left on the abdominal viscera, were by no means proportionate to the quantities of fluid and solid matter extravasated. These appearances have led some ingenious and highly gifted men to suppose that the effusion was not the effect of active inflammation, but of a certain disposition of the vessels of

the parts affected, specifically distinct from an inflammatory action; the properties of this fluid, however, the coagulable lymph every where covering the intestines, and filling up their interstices, and the pain and general excitement which attended the previous disease, considerably lessen the force of this conjecture, which will also appear the more improbable when we reflect, that the extravasation of so large a portion of serous fluid and curd-like matter would necessarily tend to obliterate the strong characters of inflammation, on the surface of the viscera and linings of the abdomen, in some cases, and, in others, render those characters less distinct than they would have been, provided a more inconsiderable exsudation had taken place.* It is an indisputable

* If an inflammation arise in a cavity, it may terminate in a number of different ways: one of these ways is by an increased secretion of the fluid of surfaces. A man receives a blow on the testicle; inflammation takes place, and the consequence is frequently a hydrocele, or dropsy of the tunica vaginalis. A child's brain inflames, and this inflammation ends at last in hydrocephalus, or collection of water in the brain. Pleurisy frequently terminates in hydrothorax, or collection of water in the chest. I have often taken away forty or sixty pints of water which had accumulated in the cavity of the abdomen, in the few days the peritoneal inflammation had lasted, during the usual species of child-bed fever. Cruikshank on the Absorbing Vessels; p. 116.

fact, that inflamed internal canals and membranous surfaces often pass, with great rapidity, from the first or adhesive, into the suppurative or effusive action.* Very considerable suppuration is occasionally found, on the membranes of the brain for instance, with hardly any vestiges of an increase of vascular action ; but would any person deny, or has any person even conjectured that this could take place without previous inflammation ? If it be here objected that suppuration is not effusion, and that, therefore, the cases are not analagous, it is readily granted that suppuration is not effusion ; but it cannot be disputed that these are two of the ways in which inflammation terminates, and if we always infer the existence of inflammation in the one case, how can we fairly deny it in the other ? In

* Consult Hunter's Treatise on the Blood Inflammation, &c. particularly vol. 1. p. 414, 415, 425, 426. vol. 2. p. 165, 385.

In inflammation of membranous parts which in health, secrete a particular fluid, a liquid, different from pus, and resembling more the natural secretion of the part, is formed. In this, as in the other case, the inflammation diminishes ; but the patient has seldom any chills ; nor is the structure of the part injured, at least farther than by mere distention, if it be a cavity. The functions of the part are, however, often injured from the presence of the fluid. John Burn's Dissertation on Inflammation. vol. 1. p. 289, 290.

short, it appears to me impossible that any thing but a highly active inflammation could occasion, in the short space of five or six days, so large a collection of serous fluid and coagulable lymph as that sometimes found in the cavity of the abdomen, after the fatal termination of the low child-bed fever.

From all that has been advanced, I hope that I may presume to lay it down as a general and incontrovertible proposition, that abdominal inflammation, either directly or indirectly, is the cause of the fatal termination both of the epidemic and peritonitic fever of child-bed.

It has been already stated, that I have not examined the body of any patient who died of the malignant epidemic; but in the course of my studies and practice I have witnessed three dissections of the bodies of persons who fell victims to a well-marked puerperal fever. In all of them there were the most unquestionable proofs of an abdominal inflammation; but, as this is the fact upon which I rest so much weight, I have rather chosen to prove

its universal existence* from the dissections of others, passing over the particulars of my own.

Nor can I admit that the contagious nature of the epidemic constitutes one decided distinction between it and the common peritonitic fever, because every observation and inquiry which I have made lead me to believe that, like scarlatina and cynanche maligna, they are modifications of the same disease, and that the peritonitic fever, when completely formed, is in kind, though not in degree, as contagious as the epidemic.† On several occasions I have clearly traced the origin of a puerperal fever of the most

* We have indeed been told, that, in the dissections of some who are said to have died of this disease, no appearances of inflammation have been discovered; but I should suspect that in such cases some important appearances had been over-looked, or that errors had been committed as to the nature of the disease, and probably in its treatment. Denman. Vol. 2. p. 295.

Whatever be the cause of puerperal fever, the cause of death is the same in all its varieties, viz. abdominal inflammation; and therefore the cure must be conducted on the same principle, or that which is calculated to obviate inflammation, for which reason all of them require the same or a similar treatment. Gordon, p. 117, 118.

† The nature and the power of contagion in general seem not to be perfectly understood, and it may exist in many diseases, in which it has not been suspected. This subject is therefore deserving of the most serious investigation and enquiry. Denman, vol. 2. p. 503.

malignant kind, to the contagion of one having only the simple peritonitic characters. The puerperal fever, described in the beginning of this work, first appeared as an ordinary peritonitic affection, but changed its appearance and became full as complicated as any that has yet been recorded, and, before it was finally subdued, again put on its original aspect. It existed for more than two years in different places in the counties of Durham and Northumberland. In 1811, it arose in the neighbourhood of Stockton-upon-Tees, afterwards in the town of Newcastle-upon-Tyne, near Chester-le-Street, in Sunderland, and again in the vicinity of Newcastle. From all the reports which I have collected of professional men, it seems to have appeared sometimes as a simple inflammation of the peritonæum, and sometimes as a more mixed and malignant complaint. In its course, also, it has been considerably modified by the circumstances and situation of the patients. In the confined and crowded habitations of the poor of Sunderland, it was exactly such a disease as Dr. John Clarke has so ably described under the name of the low fever of child-bed ;

when, at the same time, only a few miles distant in the country, where the air was pure and the circumstances of the patients much more comfortable, it resembled the ordinary peritonitic fever, having nothing of the typhoid type, though in every place in which it occurred, and under all its varieties, it seemed to be possessed of an infectious quality.*

Though I contend that these are modifications of the same disease, I have avoided the phrase identity, about which there has been so much controversy, because I have no inclination to enter into abstract discussions, or nominal disputes ; nor will I assert that there is a perfect sameness, since there necessarily must be such a difference as arises from constitutional peculiarities of patients, the changeable nature of the disease itself, together with local and

* When I had finished this sheet, and was about to send it to the press, in glancing over the article medicine in the *Encyclopædia Britannica*, I discovered that the late Dr. Thomas Young had read, in the Philosophical Society of Edinburgh, a paper respecting puerperal fever, in which he maintains that it is always contagious ; and, although he differs with me on several points, I am happy to find that he perfectly agrees with what I had written on this particular in the twelfth page of this work. See *Encyclopædia Britannica*, fourth edition, Edin. 1810, vol. 13. p. 467.

other circumstances ; nay, I have no objection to grant that the inflammatory character of this disorder sometimes conceals itself, and even appears to lose itself, in an almost unequalled prostration of the powers of the system.* But what I wish particularly to insist upon is, that the epidemic, and the peritonitic fever are so far the same as to require the antiphlogistic practice, only in the epidemic this kind of treatment must be applied with more promptitude and decision, as the time in which the professional man can be useful is much shorter.†

* Debility begins very early, because the inflammation itself is interfering immediately with the actions of life ; and, also, in such parts, universal sympathy takes place more readily, because the connection of these parts by sympathy is more immediate. John Hunter, vol. 2, p. 85.

† If the reader should be desirous of consulting the authors alluded to, respecting the morbid changes induced by puerperal fever, the following references may save him some trouble.—Denman, vol. 2, p. 494, 495. Hulme, p. 37, 38, 40, 41, 42, 43, 45, 46, 48, 53, 54, 55, 56. Foster, p. 296, 297, 298. Leake, vol. 2 p. 11, 106, 180, 181, 182, 197, 198, 199, 209, 210, 227, 228, 240, 241. Home, Clinical Experiments, p. 73, 77. Dr. John Clarke, p. 80, 81, 123, 124. Dr. Gordon, p. 31, 40, 118.

TREATMENT.

No medical man can be ignorant of the great diversity of treatment pursued in puerperal fever, and this diversity must be a subject of deep regret to every one desirous of being serviceable in his profession, by acting upon principles at once simple and adapted to the nature of the disease. Being persuaded, that much of the difference which exists among practitioners, proceeds from their not having sufficiently attended to the distinctions between the first stage of inflammation, and the second of suppuration, gangrene, or effusion, the reader will, I trust, excuse me for again mentioning a few of the most striking symptoms of each of these stages, especially since it was repeated observation of the disorder as existing under two different states which

partly fixed my present principles, and led me to adopt the practice about to be recommended.

In the first stage, after the rigors have ceased, the pulse is hardly ever less than 120, and sometimes, though, as far as I have observed, very seldom, as as high 140 in the minute ; the blood does not seem to flow in a soft, easy, natural current, but comes against the finger with a kind of vibratory motion, and more than ordinary pressure is commonly requisite to stop its course along the artery, which feels rather hard and tense. The skin is dry and hotter than natural, the patient complains of great pain and soreness of the abdomen, breathes nearly forty times in the minute, vomits mucus and bile, is generally bound in the belly, has a white, dry tongue, considerable thirst, and labours under all the restlessness and irritation of fever.

In the second stage the pulse is never under 140, and frequently rises above 160 in the minute, while it is always exceedingly variable, weak, and compressible ; the tenderness of the belly is usually much

diminished, and the fulness increased ; cold partial perspirations first break out about the face, neck, and extremities, the centre of the body, particularly the surface of the abdomen, remaining dry and of a pungent heat for some time afterwards ; the patient rarely shivers much, but has repeated chills, vomits dark grumous matter, seldom breathes less than sixty times in the minute, has generally a loose belly, a brown, black, or reddish parched tongue, unquenchable thirst, tremulous hands, lightness and swimming of the head, confusion of thought, or delirium, and, several hours before death, a remarkably relaxed, cold, damp skin. The first stage is marked by highly inflammatory, the second by highly typhoid characters, and it has always appeared to me that the tendency to putridity in the latter was proportionate to the degrees of inflammation in the former.*

Perhaps scarcely any of the above symptoms, taken singly, can be entirely depended upon as

* When the fever has remained for a very few days, the putrid symptoms, which are usually according to the degree of the preceding inflammation, advance very rapidly. Denman, vol. 2, p. 481.

distinctions between the first and second stage, yet, as several of them accompany or succeed each other, in each of these states of puerperal fever, they may together enable the observant practitioner to form a tolerably correct opinion relative to the plan of treatment to be laid down. In the first stage, blood-letting is generally followed by the most beneficial, in the second, by the most fatal effects; an antiphlogistic regimen is indicated in the first, but the second requires a nutritious diet.

The first stage is variable as to its duration, sometimes terminating in little more than twenty, and sometimes continuing as long as seventy hours, but always being much shorter in the epidemical than in the peritonitic fever. The period of time which the second stage occupies is likewise very uncertain, if it be accompanied by gangrene, it does not last many hours, if by suppuration, it is generally mortal in three or four days, and if by an effusion of serous fluid and coagulable lymph, without an actual disorganization of a vital part, it may continue a longer time, and perhaps present the pos-

sibility of recovery, but seldom any thing more ; for very few patients are saved in the second stage, whatever may be the morbid changes with which it is connected.

In the earlier part of my practice, being consulted in the second stage of some cases of puerperal fever, more than once I was surprised to find the abdomen soft and painless, and the countenance little discomposed, when the clayey coldness of the extremities, and the quick, liny, irregular pulse warned me that the patient had not many hours to live. If no accurate history of such cases could have been obtained, it is not impossible but I might have concluded, that the disease was decidedly of the debilitative order, requiring wine and cordials throughout ; but, on minute and repeated investigation, I then found, as I have always since in similar cases, that this general prostration of the system was preceded by pain, and highly febrile excitement, in short by symptoms of an active abdominal inflammation. For the most part, physicians are not consulted till the disorder has advanced into the second

stage, in which blood-letting is so very destructive ; and I cannot help suspecting that some distinguished authors, having formed their opinion from the appearance of the disease, and the ill effects of venesection, at this period, have thus been persuaded that debility is the principal thing to be counteracted from the beginning, and during the whole course of the fever. Be this as it may, the stimulant treatment is at once the most delusive and dangerous which can be adopted, and it is much to be lamented that it has the weight and authority of some eminent names.

During a residence of more than six years in Sunderland, some cases of puerperal fever, chiefly occurring among the poorer inhabitants, have annually come under my care. For the most part, my opinion was not requested till the disease had existed three or four days, and I found that whatever plan was pursued the event was generally disastrous. Blood-letting invariably sunk the feeble remains of life with great rapidity, a liberal allowance of wine and cordials was, if possible, more speedily destruc-

tive; and although purgative medicines, and a nutritious diet protracted, they seldom saved the life of the patient. Being fully aware of the inflammatory nature of the puerperal fever in the first instance, when called early, I almost always ordered one copious venesection from a large orifice, cathartics daily, and a spare diet during the continuance of the urgent symptoms. In the main run, this practice succeeded, though now and then a solitary patient was lost, even when it had been commenced under the most favorable circumstances. From these facts, it clearly appeared that the complaint, when attacked in the commencement, was generally curable, but, when advanced beyond a certain point, almost always irremediable. It likewise forcibly struck me, that when purgative medicines failed to procure stools in the first instance, the disorder commonly gained so much power, in the time lost in their repetition, as to become uncontrollable. This naturally led me to give larger doses, that the bowels might, if possible, be thoroughly opened at an early stage of the disease. Having, however, witnessed some cases in which the aperient plan

was not singly adequate to the cure, I was the more established in the opinion that both venesection and purgation were, in general, indispensibly necessary. Thus far were my views extended when the puerperal fever, described in the beginning of this work, appeared at Sunderland in January last.*

The few cases which took place in the winter were simply inflammatory; without exception, they yielded to an antiphlogistic practice, and the majority of them to brisk purgation and a spare regimen. In the spring of the year, however, the disease became more frequent, and much more formidable, being attended with symptoms resembling those of a malignant typhus; and, in little more than two weeks, five patients fell victims to its violence. Four of these cases having occurred in the practice of Mr. Gregson, and my opinion having been taken in three of them, it may readily be imagined, that a succession of such untoward events, excited great anxiety in both our minds, drawing our whole attention to this fatal malady. On reflection, however, we were sen-

* 1813.

sible that we had done our duty, and followed, to the best of our judgment, the only plan of treatment upon which any rational confidence could be placed; and if we had any thing to regret, with regard to ourselves personally, it was in not having carried the depletions sufficiently far, during the first twenty-four hours of the attack.

Every review of these unfortunate cases tended to convince me, that bleeding and purging were the most promising remedies, and experience had taught me that even these would be inefficient, unless they could be brought to operate powerfully together on the disease in its first stage. Thus prepared, I determined to unite and carry venesection and purgation much farther than before, if any cases of the same kind should again be timely entrusted to my care; and an occasion soon offered itself which enabled me to put my determinations into effect, not only without opposition, but with the complete approbation of Mr. Gregson, the attendant surgeon, whose opinions were, in every respect, similar to my own.

The patient had not been ill longer than twelve hours, and the case seemed full as threatening as any of those which had ended unfavorably. Twenty-four ounces of blood * were immediately drawn from a large orifice, one scruple of calomel, suspended in mucilage, given immediately afterwards, and two ounces of a strong infusion of senna, containing two drachms of the sulphate magnesia, ordered to be taken every hour till copious evacuations should be produced ; the attendants were directed to allow the patient barley water, agreeably acidulated with lemon juice, for a common drink and diet, and to withhold the smallest portion of solid food, or stimulating liquids. In about four hours the medicines began to operate, and several copious, dark, fetid stools were discharged ; from that time considerable relief was obtained, and a regular perseverance in cathartics, with mucilaginous drinks, and a regimen of weak chicken broth, completed the cure in five days. Several cases of a similar description succeeded, and being treated upon the same principles, the result was always equally favorable ; in some instances, however, it

* In all the cases, the blood drawn was covered with a buffy coat.

was found that more than a scruple of calomel was necessary to pass with the desired rapidity through the bowels, and the dose was accordingly increased to half a drachm, not only without danger, but with the most decided advantage. When the inflammatory symptoms were subdued, small opiate draughts or enemata were very useful in allaying the irritation of the system, and inducing quiet sleep, but they were always prejudicial in the commencement of the fever.

In addition to bleeding and purging, Mr. Gregson was induced, from an accidental circumstance, noticed in his communication, to prescribe antimonial emetics, and, on repeated trials, fully proved them to be excellent auxiliaries, never using them, however, till the patient had been freely bled or purged; and this is certainly the best way of administering emetics in puerperal fever. Three very severe cases which I attended were treated by blood-letting, purging, and vomiting, successively employed in less than twelve hours, and the united influence of these remedies was certainly very striking, a complete change having been brought about in the circulatory

system, and almost every symptom of inflammation and fever entirely subdued. But for more accurate information on this mode of practice, I refer the reader to the communications of Mr. Gregson and Mr. Gregory, which will amply repay an attentive perusal.

Denman, Monsieur Doulcet, and other writers have borne testimony to the usefulness of emetics in puerperal fever, and, though thinking favorably of them myself, when given in the manner above mentioned, notwithstanding, I must confess that bleeding and purging are the two remedies in which my chief confidence is placed.

From accurate documents now before me, it appears that from the first of January to the first of October, 1813,* forty-three distinctly marked cases of

* The first eight pages of this treatise were sent to press in the beginning of August, when I imagined that the puerperal fever had disappeared; since that time, however, I have seen several cases; but have reason to believe that the disease has now, November the eleventh, 1813, entirely ceased, no instance having occurred from the first of October.

Independently of the number above mentioned Mr. Wolfe of Chester-le-Street, whose practice extends within a few miles of Sunderland, has seen several cases of puerperal fever in the same term, one of the severest of which I attended with that gentleman.

puerperal fever have occurred to five practitioners residing in Sunderland, and the adjacent parishes of Bishopwearmouth and Monkwearmouth; four of these gentlemen I met in consultation on different occasions, and I can assert upon the testimony of them all, united to my own, that only five cases out of the whole number terminated fatally. By comparing these facts with the reports as to the general fatality of puerperal fever, and by examining the evidences contained in the appendix, the superior advantages of the practice pursued will be fully apparent.

The thirty-eight successful cases were all treated by copious depletions of one kind or other, and in twenty-nine of them, calomel was exhibited in doses of a scruple or half a drachm at the beginning, and occasionally repeated in the course of the distemper. For the most part, it passed so expeditiously along the intestinal canal that there were very few instances in which ptyalism was excited, and whenever this was the case, it seemed a favorable circumstance, all the patients, with only one exception, re-

covering with more than ordinary celerity from the time that the mouth became affected. And further to illustrate the superior efficacy of large doses of calomel, it may be here remarked, that in none of the five cases which proved fatal more than fourteen grains of calomel were given on the accession of the fever, jalap, sulphate of magnesia, and castor oil being the cathartics chiefly employed during its progress.

To a person in health, or but slightly indisposed, such an extraordinary dose as thirty grains of calomel would be followed by unpleasant and violent effects, but when the constitution labours under a febrile disorder of the infectious or inflammatory kind, calomel, given to a large amount, is not succeeded by disagreeable, but beneficial consequences ; which shews that the operation of this remedy is materially influenced by the state of the system at the time of its administration. Indeed this must be apparent at first sight; in health, the violent operation of calomel would of itself produce a disease, but in fevers, especially in those increased by irritations

of the *primæ viæ*, there is something in the morbid state of the system which prevents its distressing effects, and, as far as it does act, it has a direct tendency to diminish the febrile commotions; so that no reasoning from its operation, in ordinary cases, can, with propriety, restrain us from giving it with the greatest freedom in extraordinary cases. It is, however, merely as an aperient that I consider it serviceable in any acute disease, and I have been led to prefer it to every other, only because it is more certain and effectual in its operation, though I have always endeavoured to quicken its action by combining it with other purgatives, my object in inflammatory affections being to produce a powerful effect in as short a time as possible.

Some years ago I believed the free exhibition of purgatives to be a very doubtful practice in inflammations of some of the abdominal viscera, imagining that they increased the general irritation without lessening the local disease, but more extensive observations have convinced me that I was in error, and emboldened me to give cathartics in full and

repeated doses, both in the commencement and course of gastric and enteritic inflammations, and my late success in puerperal fever has still further tended to increase my confidence in their remedial powers.

My experience does not enable me to determine how far large doses of calomel, combined with other aperients, might be trusted to, independently of venesection, in the malignant puerperal fever ; but in slighter attacks, active purgatives, opportunely administered, and diligently persevered in, will be found fully adequate to every purpose. In some few severe cases which took place in very weak, delicate women, venesection seemed altogether inadmissible, and calomel was prescribed, in large quantities, with the sulphate of magnesia and castor oil, and though the patients finally did well, their recovery was slow and doubtful for some time, and they had a strong tendency to hectic, long after the abdominal symptoms disappeared ; whereas those patients who were copiously bled and purged, or bled, purged, and vomited successively, were usually

convalescent on the fourth or fifth day, and, from that time, regained their health and strength rapidly.*

My correspondent Mr. Wolfe, whose opinions I greatly respect, relies principally upon the daily exhibition of purgative medicines, and his practice has been generally successful ; which may be partly attributed to his discernment and his unremitting attention to the duties of his profession, the former enabling him to detect, and the latter to attack the disorder when first advancing. But from repeated conversations which I have had with Mr. Wolfe, it would seem, that all the cases which have fallen under his observation have had the simple peritonitic characters only, and were, of course, divested of that malignity accompanying the fever particularly

* My experience with respect to bleeding in Puerperal Fever, corresponded with that of Cleghorn in pleurisy. "It was remarkable, says that author, to observe how quickly the sick recovered their usual health and strength, notwithstanding the great loss of blood they had sustained ; while many, who had been bled more sparingly, continued in a languid, infirm state for months."

This was precisely the case in the Puerperal Fever, with this difference only, that those who were sparingly bled, instead of having slow recoveries, did not recover at all. Gordon, p. 109, 110.

described, which, I am fully persuaded, will be found, with exceedingly few exceptions, to require a combination of the most powerful means which have been singly recommended and adopted by physicians of the first authority.

If some differences exist in the opinions of those gentlemen who have honored me with their remarks, they all undoubtedly agree in principle, acknowledging, with one voice, the necessity of early and continued depletion, and only dissenting as to the means by which that ought to be effected. This agreement appears to lay the foundation for a fair inference in favor of the inflammatory character of puerperal fever, when those who have treated it successfully, in whatever else they may differ, accord in this, that it can only be overcome by the means constantly had recourse to for the removal of active inflammations.

In the treatment of puerperal fever, it will sometimes be found a point of great difficulty to determine with precision whether a vein should be opened or

not. When called at any time within sixteen hours from the attack, I have hardly ever hesitated to order venesection, and have never dared to recommend it when the disease had continued longer than thirty hours. Dr. Gordon,* whose admirable treatise should be in the hands of every practitioner, bled with very good effect in some cases when the pulse was 160, but I have in no instance known the operation to be of the least service when the pulse had risen as high as 150 ; and, in my practice, in all the patients who were materially benefited by blood-letting, the pulse was under 140 in the minute.

It has, perhaps, been too much the practice to confide in one set of remedies in acute diseases, which may be most expeditiously removed by a series of antiphlogistic measures. Although strenuously insisting upon the utility of phlebotomy at an early period of the first stage, yet it was never my intention to affirm, that it is of itself equal to the

* Dr. Gordon, I have very lately been informed, died about three years ago ; and, in justice to his memory, I cannot but express it as my opinion, that his *Treatise on Puerperal Fever* is one of the most valuable which ever appeared upon the subject, though, in some practical points, it is certainly defective.

removal of puerperal fever ; on the contrary, I feel it my duty to declare, that it has generally failed in my hands, unless followed by powerful cathartics. In confirmation of this, I also find on inquiry, that the patients of those authors who adopted an anti-phlogistic method of treatment, whatever might be the quantity of blood drawn, almost invariably died, when the purgatives ordered did not act at all, or only operated imperfectly.* It is not, then, simply bleeding and purging in which I have so much confidence, but in copious bleeding immediately succeeded, and diligently followed up, by copious purging, or, in other words, in the powers of these two remedies exerted on the disease at the same time.

The quantity of blood drawn at once in puerperal fever should seldom be less than twenty-four, and, perhaps, never more than thirty ounces ; but a repetition of venesection ought, if possible, to be avoided, though, occasionally, it may be absolutely necessary, and when this is the case, there should be as short an interval as possible between the first and

* The reader will find several instances of this kind in the writings of Leake and Gordon.

second blood-letting. If the first bleeding has been very large, the second should hardly ever exceed twelve ounces ; but if the patient, as sometimes happens, faint under the first operation when only four or five ounces of blood have been taken away, unless there be an abatement of all the urgent symptoms, another vein ought to be opened, after the lapse of one or two hours, and about twenty ounces abstracted in a full stream.

The ingenious Darwin* suggests small repeated blood-lettings, but, as far as I have remarked, they are exceedingly prejudicial, sinking the strength of the patient without subduing the disease. Immediately after venesection, half a drachm of calomel should be given in mucilage of gum arabic, or in the syrup of sugar, and speedily purged off with the sulphate of magnesia, or castor oil, allowing the patient to take moderately of bland mucilaginous drinks, during and after the operation of these medicines.

It has already been noticed, that puerperal fever

* *Zoonomia*, vol. iii. p. 492 third edition, London, 1801.

often remits at the beginning of the second, and at the end of the third day ; and, as such a calm is often the prelude of another and more serious attack, the purgatives should, on no account, be intermitted till after the third day ; indeed five or six very copious motions should be daily procured, till the pain and tension leave the abdomen, the pulse become slow, the skin moist, the tongue clean, the respiration easy, and the stools natural. The quantities of excrement discharged in the course of this complaint are usually so very great that nurses, and even patients themselves, often strenuously oppose a regular perseverance in the use of laxatives, conceiving that such extraordinary evacuations can neither be necessary nor useful ; but appeals of this nature must never turn the practitioner from his purpose, and so long as there are pain and tension of the abdomen, a quick pulse, and dark fetid stools, he must steadily proceed, unsubdued by remonstrances, however urgently made, and should not even hesitate to risk his own professional reputation by the boldness of his practice, if it afford the patient the least chance of recovery.

During the rigors or shiverings which usher in the first stage of puerperal fever, an aperient enema should be first ordered, and a brisk purgative afterwards, with moderate portions of tepid gruel ; all kinds of diffusible stimuli ought to be expressly prohibited, for even then they are extremely pernicious, and it is surprising that they should have been so strongly recommended, at this period of the disease, by many sensible writers. The rigors having once abated, and the disorder become more completely developed, no time ought to be lost in cutting it short by the practice already laid down.

Whenever there are any reasonable grounds to suspect that the state of inflammatory excitement is passed, or upon the point of declination, every thought of venesection ought to be abandoned, for the abstraction of blood might then be imminently dangerous. If any thing can save the life of the patient under such circumstances, it is the active perseverance in purgative medicines with an invigorating diet. Speaking from my own personal observation, I do not know the period of the disease

in which cathartics can be omitted, without considerable hazard; they are indispensibly requisite in the first stage, and I have seen them occasionally succeed when the disorder seemed advanced into the second. The system is uncommonly susceptible of stimulants, such as strong wine and cordials, in the second stage, and, if freely administered, they generally soon destroy the patient, whose remaining powers are best supported by milk, nourishing broths, and the like.

The case communicated by Mr. Tulloch will be found worthy of particular attention, as it strikingly illustrates the benefit derived from the aperient plan, under the most unpromising appearances.

When the stomach, as occasionally happens, is so excessively affected in the commencement of puerperal fever, that almost every thing taken is immediately rejected, the case may be considered violent, and strongly indicates the necessity of blood-letting, which at once lessens the disorder, and allays the consequential irritability of that organ. In such

instances, calomel, in the dose of a scruple or half a drachm, mixed with mucilage or syrup, is by far the best formula,* and it ought to be repeated, at such intervals as the practitioner finds expedient, till plentiful dejections succeed, after which the sulphate of magnesia given with the infusion of roses† will prove one of the most agreeable and useful purgatives. The bowels having been completely and frequently opened, the sickness almost always ceases, and the cure may then be conducted without more than ordinary risk or impediment. Examples of the above nature, according to the observations of Mr. Gregson, do not form objections to the use of

* Si ventriculus, nimia irritabilitate, medicamenta retinere nequit, ad enemata confugiendum est; et post evacuationem hoc modo factam, ventriculi irritatio plerumque adeo sedatur, ut retinere possit quæ antea rejecisset. Medicamenta minime ingrata eligenda sunt; et submurias hydrargyri, quoniam parva quantitas pro dosi sufficit, utilissima est. Quum mihi visum est purgatione opus esse, aliaque remedia rejecta fuerant, ob ventriculi magnam irritabilitatem, inveni submuriatam hydrargyri cum paulillo syrupi datam, effectum exoptatum edere. Licet enim occurrat vomitus, submurias hydrargyri, ut syrupo gravior, subsidet, et minus facile rejicietur, quam si forma pilulæ vel boli exhibetur.

The above is an extract from the twenty-first page of an elegant Inaugural Dissertation on Hæmatemesis, by my experienced and judicious friend Dr. Noel Thomas Smith, now Physician at Newcastle-upon-Tyne.

† The infusion of roses, prepared with the diluted sulphuric acid, according to the London Pharmacopœia, covers the taste of the sulphate of magnesia better than any thing else.

antimonial emetics, after venesection and purging, though I have never prescribed them myself under such circumstances.

Blisters, I suspect, have incurred, like some other antiphlogistic remedies, an unmerited censure from having been too frequently applied in the second stage of puerperal fever, in which they rather increase than diminish the disease, by exciting a general irritation; but, in the commencement of the disease, large blisters, covering the surface of the abdomen, may be had recourse to with advantage. Since, however, I have bled and purged so freely, I have hardly ever found it necessary to prescribe blisters to the abdomen; though, in cases where the respiratory organs are much oppressed from the beginning, I never scruple to order them to the chest, suspecting that the pleura participates in the inflammatory action.

Hippocrates seems to have used the cold affusions in puerperal fever; * if at all admissible, they can

* Pour water upon a woman in a puerperal fever attended with pain.—Book second, p. 63, of the *History of Epidemics*, by Hippocrates. Translated into English by Samuel Farr, M. D. F. R. S. London, 1780.

only be so in the first stage, when the skin is preternaturally hot and dry; having never tried them myself, in this complaint, it neither becomes me to advise nor condemn their application, but, recommended by such authority, they, at least, deserve the consideration of future inquirers. The warm bath has been said to be very beneficial, and although I have seen it of some service, after bleeding and purging, yet the fatigue which it necessarily occasions the patient is a strong objection to its general use.

When the pain is very severe, flannels, wrung out of hot water, applied to the belly, as warm as the patient can bear them, sometimes afford considerable temporary relief; and, being satisfied with their effects, I have never ventured to try cold applications, notwithstanding they have been favorably reported by a very judicious physician; * but I must here observe, once for all, that fomentations, blisters, scarification and cupping, every species of topical application, and the warm bath are only secondary

* See a Paper by Thomas Sutton, M. D, in No. XXXV. p, 318, of the Edinburgh Medical and Surgical Journal.

means at the best, and ought not for a moment to make the practitioner lose sight of the main part of the treatment, viz. copious venesection, and early, active, and repeated purging.

The patient should be lightly covered, the linen daily changed, and the room frequently ventilated, the temperature of which should never exceed 60° of Fahrenheit. Light and noise ought to be guarded against as much as possible, for even the burning of a candle, or the ticking of a clock might prevent sleep, and prove the cause of additional irritation.

When a fever is known to be contagious, many practitioners object to the bare proposal of general depletion, and especially when such an affection attacks a woman in child-bed, the exhaustion induced by delivery, and the additional debility supposed to be the consequence of contagion, strongly inclining them to adopt the gentlest measures. But, if we consider, that there is a great change produced upon the system, by the return into the circulation of a portion of the blood which supported the fœtus,

that the weakness succeeding parturition, so far from preventing, is the very state in which phlogistic diseases most readily take place, and, above all, that puerperal fever is invariably attended by an active abdominal inflammation, which the suppression of the milk and the lochia tends to support, no vain fears of the debility from parturition and contagion should deter us from depletion, the only remedy in this formidable malady. It is not, however, in the partial adoption of the means recommended, that success will be found; small bleedings and gentle purging may weaken the patient, but will not remove the disease; whereas large bleedings and active purging will subdue the disease, and leave nothing but mere debility to be counteracted.

It is a profound observation of Baglivi, that those fevers called malignant are generally connected with latent inflammation of some of the viscera, which passes into suppuration or gangrene when venesection has been omitted. In a future publication, I shall attempt to prove, that this observation may be justly extended to the worst species of typhus, and other contagious disorders, yet it is more parti-

cularly applicable to all the forms of puerperal fever.

My experience in this complaint is so far conclusive, that I have repeatedly witnessed it under all its varieties, from the most simple peritonitic to the most complicated typhoid puerperal fever, and every fact which has come before me has tended to establish this principle—that in proportion as the disease increases in malignity, the greater is the demand for early and copious depletions.

Before concluding this interesting subject, I beg leave most earnestly to advise practitioners of midwifery to visit their patients very frequently, for several days after delivery, and narrowly to observe the state of the pulse, tongue, stomach, bowels, and skin; for such attentions will always be satisfactory, and often enable them to perceive the most insidious approaches of puerperal fever. And it ought never to be forgotten, that it is in the provident anticipation of disease the medical man most strikingly shews the force of his understanding, and the efficacy of his art.

APPENDIX.

INTENDING to publish several communications which will much illustrate the principles laid down in this work, and not wishing to swell it into a large volume by superfluous repetitions, I shall only insert three cases, by way of more fully detailing the treatment of puerperal fever.

APPENDIX I.

THE CASE OF MRS. A——, AGED 32, TREATED BY
BLOOD-LETTING AND PURGING.

April 5th, 1813.

Mrs. A—— was delivered on the 3d of April of her sixth child, after a natural and easy labour ; the placenta was cast off in less than an hour, and a moderate discharge of the lochia succeeded.

On the morning of the 5th, she had a slight attack of fever, and her pulse rose to 100 in the minute. Her bowels not having been moved since her delivery, six grains of calomel, and a purgative

mixture, containing an ounce and a half of the sulphate of magnesia, were prescribed, by her accoucheur, but they failed to operate, and in the evening she became considerably worse.

The pulse was then 130 in the minute, the thirst urgent, the skin very hot and dry, the face flushed, the breathing hurried, the milk and lochia suppressed, and the whole surface of the belly extremely tender and painful to the touch. The patient was afflicted with constant nausea and retching, lay upon her back, tossed her arms from one part of the bed to another, and sighed very frequently.

Twenty-four ounces of blood were drawn from a large orifice, which occasioned syncope. One scruple of calomel was administered, about a quarter of an hour afterwards, in a draught of mucilage, and the same dose directed to be repeated in about four hours, if the first should not operate very freely. A spare regimen was strictly enjoined.

April 6th, 7 o'clock in the morning.—The blood drawn the night before was very sily; both the

draughts had been taken, and six large fetid stools procured. The patient felt much relieved; her pulse was reduced to 118 in the minute, but there was still pain and tenderness over the abdomen.

Two drachms of the sulphate of magnesia were ordered to be taken every two hours, till the bowels should be four or five times loosened.

Evening, 8 o'clock.—The patient took about eight drachms of the sulphate of magnesia, and had seven copious liquid stools. Her pulse was only 100 in the minute, and the pain and tension of the belly considerably diminished.

From this time the patient was convalescent, but mild purgatives were daily prescribed till the 9th, after which no medicines were required.

THE CASE OF MRS. R——, TREATED BY BLOOD-
LETTING AND PURGING.

June 4th, 1813.

Mrs. R——, a stout young woman, in the twenty-eighth year of her age, was delivered on the 2nd of June. She had a natural and easy labour, and seemed to be recovering extremely well, till very early on the morning of the 4th, when she was seized with shiverings speedily followed by headache, nausea, and retching. At noon of the same day, about ten hours after she first felt indisposed, I was requested to visit her ; the pulse was then as high as 134 in the minute, the skin pungently hot, the tongue white and dry, the milk and lochia almost entirely suppressed, the urine passed with some uneasiness, the breathing much quickened, the abdomen tense, and so sore that the weight of the bed clothes could not be borne upon it; her countenance was very anxious, and she complained of great oppression, pain, and weakness.

Twenty-four ounces of blood were ordered to be drawn immediately from the arm, one scruple of calomel, mixed in mucilage, to be given directly after venesection, and two drachms of the sulphate of magnesia, with an ounce and a half of the infusion of roses, every hour till five or six copious stools should be procured. Barley water, thickened with a little isinglass, was allowed as a common drink and diet.

Evening, 6 o'clock.—The blood abstracted had a firm crassamentum, which was cupped and sisy. The patient had passed only three scanty, fetid evacuations, and did not appear much relieved, the symptoms being nearly as urgent as at the last visit.

Twelve ounces of blood were directed to be taken away immediately, twenty grains of calomel prescribed, and a mixture, composed of an ounce and a half of the sulphate of magnesia and six ounces of the infusion of roses, two table spoonfuls of which were ordered to be taken every hour, after the exhibition of the calomel, till the bowels should be frequently and plentifully opened.

June 6th, 6 o'clock in the morning.—The blood drawn last evening was covered with a buffy coat. The whole of the medicine had been taken, which produced seven large, dark, loose stools. The patient was very considerably better; her belly felt soft, and she could bear pressure with very little inconvenience. The skin was warm and moist, and the pulse reduced to 100 in the minute.

An anodyne enema, containing 120 drops of the tincture of opium, was directed to be injected immediately, and the common neutral mixture to be taken in the course of the day, with weak chicken broth as a diet.

Several hours of sleep were procured by the anodyne enema, and from that time the patient might be considered convalescent, but her bowels required to be kept open by castor oil, for five or six days longer.

This case being extremely violent, and the patient of a plethoric habit, a repetition of blood-letting appeared admissible, and it certainly had an excellent effect.

THE CASE OF MRS. B——, AGED 30, TREATED BY
PURGING.

June 6th, 1813.

Late on the 4th of June, Mrs. B—— was safely delivered of her third child, and continued tolerably well till the 6th, when she was attacked by a shivering fit, followed by increase of heat, oppression at the præcordia, restlessness, thirst, quick breathing, suppression of the milk and lochia, great pain, tension, and extreme tenderness of the belly, with a small, hard pulse, exceeding 120 in the minute. Her urine was scanty, and passed without much inconvenience.

Half a drachm of calomel was prescribed in mucilage, and half an ounce of castor oil directed to be taken every hour, in a little warm coffee, till the patient should be plentifully purged. An anti-phlogistic regimen was ordered.

Four doses of the castor oil were taken after the

calomel. In the course of the day twelve copious, dark, fetid stools were procured, and an evident diminution of the disease took place.

7th, 6 o'clock in the morning.—The patient had two more evacuations from the medicines, but, notwithstanding, passed a restless night. The pulse was 120 in the minute, the surface very hot, the tongue dry, and the abdomen tense and painful on pressure. A scruple of calomel was prescribed, and the castor oil ordered every hour as before.

Eight copious stools were produced in six hours; the pain and tension of the abdomen were greatly lessened, and the pulse had fallen to 110 in the minute.

This patient continued to improve under the daily use of purgatives, and occasional small anodynes, though she recovered much more slowly than those who had been largely bled. She was of a delicate and strumous habit, and had a considerable lochial discharge after delivery; for which reasons purgatives were trusted to alone.

COMMUNICATIONS

RESPECTING THE

PUERPERAL FEVER,

DESCRIBED IN THE FOREGOING TREATISE.

APPENDIX II.

LETTER FROM MR. J. T. GREGSON, SURGEON IN SUNDERLAND, ADDRESSED TO THE AUTHOR, CONTAINING TWO CASES OF PUERPERAL FEVER, AND SOME OBSERVATIONS ON THAT DISEASE.

Sunderland, November 1st, 1813.

SIR,

From the beginning of January to the beginning of October in the present year, forty cases of puerperal fever have occurred in my practice; about twenty of those cases have been attended with me, or for me, by my late assistant Mr. Gregory,* and, I believe, that you have nearly attended an equal num-

* Now Surgeon in Monkwearmouth.

ber with me. This gives me much satisfaction, because, in matters of this nature, collective testimony is always the most desirable and conclusive.

The disease was marked by such strong characters that it could not be easily mistaken, and I have been particularly mindful to exclude, from the above number, every case in the least degree ambiguous.

Of the forty patients afflicted with puerperal fever, four only died, and the remaining thirty-six are now living testimonies of the efficacy of the treatment adopted. The consideration of this latter circumstance is extremely consolatory, and, perhaps, it authorises me to say, that the success of the practice is unexampled in the records of medicine, and, likewise, confidently to hope, that the publication of your treatise on puerperal fever may be the means of saving many valuable lives hereafter.

While only three solitary examples of this distemper occurred to some practitioners, and while it was unobserved by several others who lived in the same

town, it may appear rather singular at first sight, that so many should have occurred to myself and my assistant. The cause of this I cannot pretend fully to explain, but I should be wanting in common liberality if I were to make any hesitation in asserting, that the disease which appeared in my practice was highly contagious, and communicable from one puerperal woman to another. For some time, I was not aware of this important fact. The cases which fell under my care, with a few exceptions, took place among poor women, who lived in confined situations, and in small apartments, in which fires were kept for the convenience of large families that, for the most part, had no other room to reside in. The heat and noise of these apartments, the want of ventilation, the constant succession of visitors to the sick persons, the pernicious custom of taking strong drinks and flesh diet, in utter disregard of professional admonitions, seemed to me, for some time, sufficient causes for the production of this fever ; but its frequent occurrence seriously awakened my attention, and led me to discover, that the causes above enumerated generally acted only

as predisposing ones, and that the disease was excited and kept up by an infectious matter. It is customary among the lower and middle ranks of people to make frequent personal visits to puerperal women resident in the same neighbourhood, and I have ample evidence for affirming, that the infection of the disease was often carried about in that manner ; and, however painful to my feelings, I must in candour declare, that it is very probable the contagion was conveyed, in some instances, by myself, though I took every possible care to prevent such a thing from happening, the moment I ascertained that the distemper was infectious.

The puerperal fever has at length disappeared from my practice, and while I have deeply to lament the loss of four patients by it, yet I feel greatly consoled in reflecting, that its occurrence has led to practical results, which will most materially lessen its fatality in future.

As I understand that you have, in several parts of your work, very particularly illustrated the com-

bined powers of copious blood-letting and purging, I shall select two cases, to shew the efficacy of blood-letting, purging, and vomiting, used in quick succession, and conclude with some desultory observations.

MARTHA WATSON, an unmarried woman, aged 19 years, was delivered of her first child on the 31st of last July. Nothing unusual occurred either during or after the labour. This woman was healthy and robust, and of a passive disposition, and did not seem to feel the peculiar delicacy of her situation with that regret and anxiety which is so often observed under similar circumstances.

No symptom of disease manifested itself till the 2nd of August, the third day after her delivery, when she was attacked with rigors, which were soon succeeded by severe pain in the abdomen, considerable febrile excitement, nausea, and vomiting. These symptoms continued to advance with increasing violence, but, notwithstanding, I did not receive the least intimation of the indisposition of this poor

woman until the disease had existed full thirty hours.

At nine o'clock of the evening of the 4th, I found her in great agony, complaining of a constant pain and burning heat in the belly, the surface of which was extremely sore ; and there was, likewise, much abdominal tension. The skin was uncommonly hot and dry, the tongue foul and parched, the lochial discharge suppressed, the secretion of the milk much diminished, the breathing quick and laborious, the pulse 136 in a minute, and, besides, there was incessant thirst, and constant nausea or vomiting.

Although, as previously stated, thirty hours had elapsed from the first attack, the urgency of the inflammatory symptoms induced me, even at this advanced period of the first stage, to use the lancet ; and, accordingly, I took away twenty ounces of blood from a large orifice at the arm, which brought on some degree of faintness ; immediately exhibited half a drachm of calomel in mucilage of gum arabic, ordered three drachms of sulphate of mag-

nesia to be taken every hour, in a little gruel, until free and repeated fecal evacuations were obtained, and recommended the diet to be weak tea and thin gruel.

At five o'clock on the following morning, I made another visit, and found, that the patient had been purged copiously upwards of twelve times by the medicines prescribed. The nausea and sickness had entirely ceased, and the intense pain subsided from the abdomen, which, however, was still very tender upon pressure. The thirst and other febrile symptoms were nearly the same as before, excepting that the pulse was softer. One grain of tartarised antimony was ordered to be given every hour until considerable nausea or vomiting supervened. No alteration was made in the diet.

Calling again about noon of the same day, I was informed that four grains of the antimony had been taken as directed, that full and frequent vomiting had been induced, and several liquid stools discharged. There was considerably less tenderness over the ab-

domen, and the pulse reduced to 126 in a minute. The sickness having quite abated, half an ounce of castor oil was prescribed, and the same quantity ordered to be repeated two hours afterwards.

By the evening, five more fecal evacuations had taken place, and there was then only a slight degree of tenderness remaining over the abdomen; the skin was warm and perspiring freely, and the pulse only 116 in a minute. The lochia had returned in considerable quantity, and was extremely offensive.

Forty drops of the tincture of opium was exhibited in the form of a draught, which gave some hours of refreshing sleep; and on the ensuing morning, the 6th of August, the patient might be pronounced convalescent; the pulse being very soft, and less than 100 in the minute. Gentle laxative medicines, however, were frequently repeated till the 10th, after which she very speedily recovered her strength.

Mrs. D—— was delivered of her first child, after a severe labour, on the 15th of August. Every

thing went on well till the 17th ; in the morning of which day she had rigors, succeeded by head-ache, nausea, sickness, increased heat, thirst, white clammy tongue, a small vibrating pulse, upwards of 120 in a minute, suppressed milk and lochia, great internal heat and pain in the cavity of the belly, and considerable tenderness of the abdominal integuments. The breathing was laborious, the countenance anxious, and the natural functions much oppressed.

Without delay, I took from the arm twenty ounces of blood, prescribed half a drachm of calomel, and small doses of sulphate of magnesia, and a spare diet, as in the former case.

Before night the patient was purged about ten times very copiously, and she experienced great relief. One grain of tartarised antimony was ordered every hour until it excited nausea or vomiting.

On the following morning, I found that the antimony had caused vomiting when the third dose

had been taken, and that three motions by the bowels had occurred during the night. A complete remission was effected, the pain and tenderness quite removed from the abdomen, and the pulse soft and only 90 in a minute.

From the 19th till the 23rd of August, this patient continued better, hardly any medicine, except gentle laxatives, being required. In the morning of the last mentioned day, however, she again became feverish, and the pulse, in a few hours, rose to 130 in a minute; and she was afflicted with constant and excessive pain in the abdomen. A scruple of calomel was ordered to be taken directly, and the belly to be frequently fomented with flannels wrung out of hot water.

The calomel did not operate, and at six o'clock in the evening the pain in the bowels was extremely urgent, the abdomen tense and very tender, the skin intensely hot, and the pulse small and 160 in a minute. Conceiving that a repetition of bleeding was now contraindicated, I ordered half a drachm of

calomel to be exhibited immediately, and half an ounce of castor oil every hour afterwards until it operated freely on the bowels.

At a very early hour in the morning of the 24th I visited this patient, and was much gratified to find that the calomel, and four doses of the castor oil had caused eleven dark coloured stools, and produced a remission of all the urgent symptoms, and a return of the lochia. The pulse was 140 in a minute, and some degree of abdominal tenderness still remained. A grain of tartarised antimony was given every hour ; and, after having been repeated three times, it occasioned free vomiting.

At night the pulse was reduced to 118 in a minute, the skin was warm, and in a state of free perspiration, and the abdominal tenderness removed. The sickness had quite abated, and five or six more fecal evacuations had taken place in the course of the day. With a view to procure rest, an enema, which contained 120 drops of the tincture of opium, was administered.

The patient had a good night, and next morning was in every respect convalescent, but notwithstanding, her bowels were kept in a lax state for several succeeding days by small doses of castor oil; and an opiate was occasionally prescribed for the purpose of allaying irritation.

The last case manifests the necessity of constant vigilance on the part of the practitioner, even when a remission has been effected, and shews that however desperate the circumstances may be they are not always absolutely insurmountable. If diffusive stimuli had been resorted to, under an idea of sustaining the apparently sinking powers of the system, I have not the least doubt but that the patient would have been lost. Evacuations saved her, because they removed the inflammation which was verging towards a fatal crisis by oppressing and impeding the vital functions.

From long experience, Denman advises antimonial emetics, which have, nevertheless, been prohibited in puerperal fever by some later systematic writers;

hardly any of whom, however, appear to reason from facts; and the greater part raise objections to the use of emetics, merely because they cannot perceive in what manner such remedies can be of service. Without speculating on the subject, it is enough for me, that I have seen them really beneficial after bleeding and purging; nor shall I attempt to explain their mode of operation, although I must confess that they have always seemed to me to produce their good effects by reducing the morbid force of the arterial system.

My attention was particularly turned to the usefulness of emetics from an accidental occurrence in a case, in which purgative medicines had been given to a considerable extent, without completely relieving the pain and tenderness of the abdomen; which, however, were soon removed by free vomiting, occasioned by a large dose of calomel combined with jalap. And from that period I have repeatedly used antimonials, with the intention of exciting nausea or vomiting, when bleeding and purging, or when purging alone, had been premised.

The forty cases of puerperal fever, which took place in my practice this year, were treated by the antiphlogistic method ; a few cases by purging simply, and all the remainder by bleeding and purging, or by bleeding, purging, and vomiting, used in the manner previously specified.

From remarks, diligently made at different times and occasions, I have long believed, that the simple peritonitis of child-bed women is nothing more or less than a variety of the low infectious puerperal fever, and that they ought to be classed and treated as the same disease. My whole experience, in an extensive practice of midwifery in the middling and inferior classes of society, and more particularly that of the last ten months, has left me without a doubt upon this point.

The generality of the cases which fell under my care, in the present year, were attended by as great apparent lassitude and prostration of strength as ever I beheld in the common typhus gravior ; but, conceiving that an acute local inflammation was

going forward in a vital part, I was induced to place my sole reliance upon depletion, which, when very freely employed in the beginning of the disease, never failed to answer my utmost expectations.

Bleeding may always be employed in the first stage of puerperal fever with much benefit, and I believe that it has been brought into disrepute from having been used indiscriminately during the course of the disease.

From the rapid progress which this fever generally makes, the necessity of procuring as speedy a resolution as possible will be admitted at once; and, I conceive, that large doses of calomel are admirably calculated, in part, to fulfil that intention; they have been given in a great number of instances, and none but the most salutary effects have ever resulted from their exhibition; and I can, therefore, confidently recommend them.

After what you have written, it would be needless for me to enter more into details than I have already

done ; particularly as my chief object in addressing you at all, is rather to confirm the accuracy of your statements, than to offer any additional matter upon the subject that you have discussed.

I took short, but correct, notes of most of the cases of puerperal fever as they occurred ; if these should be of the least use to you hereafter, they are perfectly at your command for publication ; and I consider you fully entitled to all the facilities that I can give to your undertaking, on account of the unwearied attention you paid to many of my patients who were afflicted with puerperal fever.

I am, sir,

Your obedient servant,

J. T. GREGSON.

TO JOHN ARMSTRONG, M. D.

WEARMOUTH WALK, SUNDERLAND.

LETTER ON THE SAME SUBJECT, ADDRESSED TO THE
AUTHOR, BY MR. R. GREGORY, SURGEON IN MONK-
WEARMOUTH.

Monkwearmouth, November 3d, 1813.

SIR,

While acting as an assistant to Mr. Gregson, I witnessed, at different times in the current year, at least twenty cases of puerperal fever, the whole of which were forcibly characterised by great abdominal pain and tenderness, unusual celerity of pulse, high pyrexia, suppressed or diminished lochia and milk; and also by excessive debility and restlessness, such as attend the most severe kinds of typhus.

From all that I observed I was firmly convinced, that the fever was highly inflammatory in the beginning, and required the most rigid antiphlogistic practice. Every case that I saw more completely satisfied me of the superiority of the treatment made use of by you and Mr. Gregson.

With two exceptions only, the cases that I witnessed were treated by free venesection, large doses of calomel, and other purgatives ; or by venesection and cathartics, with antimonial emetics ; and though plentiful bleeding and purging certainly fulfilled every intention, yet antimonials seemed to me auxiliary remedies of considerable force in promoting a speedy resolution of the disease. Where antimony excited vomiting, soon after free blood-letting and purging, I remarked that the complaint terminated sooner than in those cases where it only induced nausea.

The pain was mitigated, in every instance, by blood-letting, but permanent relief was not obtained in any case until the bowels were freely moved ; and calomel, exhibited in doses of a scruple or half a drachm, answered that purpose extremely well, with the assistance of sulphate of magnesia or castor oil. Some practitioners will probably think such a quantity of calomel given at one time rather hazardous, particularly to a woman labouring under puerperal fever ; but a little experience will soon remove

their groundless apprehensions, and convince them of its inestimable value in this disease.

In no case whatever have I seen the smallest danger result from the use of such an unusual dose as above stated ; on the contrary, it has always been most eminently beneficial, and the only inconvenience that can arise from its exhibition is an occasional ptyalism ; yet this, in my opinion, is a very desirable occurrence, as the symptoms of the disease very rapidly receded in those cases where it took place from the repetitions of the large dose of calomel.

In the unavoidable absence of Mr. Gregson, some cases were left to my own management ; and I made a point of bleeding till the patient was likely to faint ; a circumstance which, I conceive, is of some consequence in checking the inflammatory action. It, likewise, appeared to me, that half a drachm of calomel answered better than a scruple, because it acted much sooner and more effectually.

These are the principal facts that occur to me at present, which I hope you will find sufficient, as evidence of the success of your plan of treatment. From the notes in my possession, it would have been easy for me to have given you a minute detail of several cases, but having been informed by Mr. Gregson that he has addressed you at some length upon the subject, I have thought it better to be as brief as possible.

I remain, sir,

Your very obedient servant,

R. GREGORY.

TO JOHN ARMSTRONG, M. D.

THE CASE OF CATHARINE BEWICK, WITH OBSERVATIONS, COMMUNICATED TO THE AUTHOR, BY MR. B. TULLOCH, HOUSE SURGEON TO THE SUNDERLAND DISPENSARY.

Sunderland Dispensary, October 13th, 1813.

SIR,

Agreeable to your request, I send you the detail of the case of Catharine Bewick, whom I was particularly desired to attend in labour. The important nature of the complaint induced me to make notes at every visit ; and I trust that their accuracy, as to fact, will be a sufficient excuse for the length to which they have extended this very interesting case.

My professional duties, as house surgeon and apothecary to the Sunderland Dispensary, affording me very little leisure, these notes, with the observations attached to them, have not been arranged with that perspicuity that I could have wished ; but I hope they will, nevertheless, tend to prove the great

utility of the practice that was adopted and pursued at your suggestion.

I am, sir,

With sincere respect,

Your very humble servant,

B. TULLOCH.

To JOHN ARMSTRONG, M. D.

CATHARINE BEWICK, aged 19, unmarried, of a robust habit, after a severe labour, was delivered of her first child on Monday, the 23d of August, 1813. The placenta was thrown off about twenty minutes after the expulsion of the child ; and though the discharge hitherto had been trifling, yet, in an hour, it became so considerable as to require the application of cold to restrain it.

On visiting her the next day, I found that she had passed a good night; her bowels had been freely moved from castor oil, administered before her delivery. There was neither pain nor tension over the abdomen, and she had passed her urine freely, and without the least uneasiness.

Being unavoidably called to a distance early on the morning of the 25th, I requested a professional friend to pay her a visit, on my account, in the course of the day. On my return in the evening, I was much concerned to hear from my friend, that he had been called to her, soon after I left home, and found her labouring under all the symptoms of puerperal fever, viz. anxiety, restlessness, prostration of strength, aching of the temples, hot skin, intense thirst, with a dry tongue, a pulse 120 in the minute and hard, great tenderness and tension of the abdomen, and suppression of the lochial discharge, and of the milk.

On inquiry, the gentleman in attendance was informed, that at midnight, on the 24th, she was

seized with a strong rigor, which lasted some time, and was succeeded by a hot fit, and all the febrile symptoms above enumerated.

Twelve ounces of blood were immediately drawn from the arm, a strict antiphlogistic regimen enjoined, and the following bolus and mixture prescribed.

℞ calomel, gr. x. cons. rosæ q. s. fiat bol.

This bolus to be taken immediately.

℞ sulph. magnes. ℥iv. infus. senn. tart. ℥xii. tart. antimon. gr. i. M. ft. mistur.

Four table spoonfuls of this mixture to be taken every two hours until the bowels have been freely moved.

At 6 o'clock in the evening another visit was made; two very small stools had been procured; the abdomen was still tense and very painful on the slightest pressure, and the pulse 130 in the minute.

From the urgency of the symptoms, this gentleman was induced to draw sixteen ounces more of blood, and to direct a continuance of the purgative mixture.

Having returned from my journey at 9 o'clock, I immediately visited the patient with my professional friend, when we were both disappointed to find that the purgatives previously taken had failed to procure free evacuations, the pulse had risen to 160, and the anxiety, restlessness, heat, pain and tension of the belly were all increased.

At this period, Dr. Armstrong was first requested to see the patient, and it was agreed in consultation, that half a drachm of calomel, in an ounce of mucilage of gum arabic, should be directly given, and the dose of the mixture repeated every hour.

At mid-night another visit was paid; the patient had had several large stools, the pulse was now 140, the pain and tension of the belly were greatly relieved, and the anxiety, thirst, and restlessness considerably diminished.

The mixture ordered to be continued as before.

August 26th, 5 o'clock, A. M.—One stool having only been procured since last visit, ten grains more of calomel were given in a bolus, and the mixture continued.

————— 7, A. M.—She has had two copious stools of the appearance of gruel; pulse 120, tenderness, tension, and pain of the abdomen diminished; countenance less anxious, tongue cleaner and more moist, thirst not so urgent.

To go on with the purging mixture, and to use a thin mucilage of gum arabic for a common drink.

————— 12, noon.—Three more stools since last visit, symptoms as before. The mixture with the sulphate of magnesia was omitted, and the following directed in its stead.

R ol. ricini ℥iii. vitel. ovi q. s. aq. menth. ℥ix.
M. ft. mistur.

Four table spoonfuls to be taken every two hours.

August 26th, 9, P. M.—Three copious stools since last visit, symptoms still continue favorable. The purging mixture was omitted, and the following medicines prescribed.

R tart. antimon. gr. ii. aq. pur. ℥vi. M. ft. mistur.

Two table spoonfuls to be taken every two hours, if awake.

R haust. anodyn. cum tinct. opii. gr. xxx.

This draught to be taken at bed-time.

August 27th, 9, A. M.—She has had a little sleep, no stools since last report ; some slight increase of fever. The antimonial mixture to be omitted.

R sulph. magnes. ℥ii. tart. antimon. gr. i. infus. senn. tart. ℥xi. M. ft. mistur.

Four table spoonfuls to be taken every two hours.

August 27th, 8, P. M.—Three copious stools have been procured; the pain and tension of the belly nearly gone, but the former is still increased by pressure; pulse remains at 120 in the minute, anxiety, heat, and thirst considerably abated. The laxative mixture was now discontinued, and the diluted sulphuric acid administered as follows:

R muc. g. arab. ten. ℥viii. acid sulp. dilut. ℞i.
Ed. syr. papav. errat. aa ʒi. M. ft. mistur.

Two table spoonfuls to be taken frequently, in a little barley water.

The anodyne draught to be taken at bed-time.

——— 28th, 8, A. M.—Has had a good night, pulse still 120, other symptoms as before. Weak chicken broth allowed.

The mixture with castor oil was repeated; of which four table spoonfuls were directed to be taken every two hours.

August 28th, 9, P. M.—She has taken all the mixture, and has had five stools of a natural appearance; pulse 120, slight pain, on pressure over the belly; perspiring freely, yet the skin is hotter than natural. The anodyne draught to be taken immediately.

R aq. ammon. acet. ℥ii. aq. puræ ℥vss. syr. simp. ℥ss.
M. ft. mistur. Two table spoonfuls to be taken every two hours.

——— 29th, 10, A. M.—She had had no sleep during the night; complains much of pain nearly in the situation of the right lateral ligament of the uterus; though she perspires freely, there is great heat of the skin; pulse has risen to 130, and is rather hard; has had one scanty stool, attended with some griping pain; anxiety, restlessness, and thirst considerably increased. The following injection was directed to be used immediately, and the sudorific mixture omitted.

R tinct. opii gr. cx. muc. g. arab. aq. tepid. aa
℥iss. M. ft. cnema.

August 29th, 12, noon.—Rather easier since the injection was administered ; but the tenderness, tension, and pain of the abdomen have returned; the latter increased by the slightest pressure; pulse 130, tongue dry, intense thirst, aching of the temples, impatience of light and noise, great general heat of the whole surface, though there is a very free perspiration; countenance pale and dejected. The chicken broth to be omitted, milk and water gruel allowed.

Repet. mistur. cum sulph. magnes.

Four table spoonfuls to be taken every half hour, until the bowels are freely opened.

———— 9, P. M —All the mixture has been taken; no stools; pulse 135, great restlessness, intense thirst, countenance extremely solicitous, respiration short and quick, the other symptoms as at last report.

R ol. ricini ℥iss.

The castor oil to be taken directly, in a little warm coffee.

August 29th, 11, P. M.—No stools, pulse 140, small and compressible; in other respects, the patient was much the same as when last visited.

Warm fomentations were ordered to be applied to the belly, a common purgative enema injected directly, and a scruple of calomel suspended in mucilage was then administered.

———30th, 7, A. M.—Has had five very copious stools since last visit, of a much darker colour than before; she feels greatly relieved; the pulse has come down to 120 in the minute, and is more free; less heat of the surface, tongue more moist, countenance more composed, the pain of the right side is still severe, and more especially so when she is moved, or when pressure is applied. Slight ptyalism first observed.

——— 6, P. M.—Since last visit she has taken

five drachms of the compound powder of jalap, * and has had three stools; pulse 130, great heat of the skin, though there is a general perspiration; pain of the side the same, great thirst, restlessness, and anxiety; in other respects as at last report.

The anodyne enema was again directed to be used immediately.

She was visited again at 10, P. M.—Pulse 136, other symptoms as before; no sleep had been procured, though the enema was retained.

Three table spoonfuls of the following mixture were ordered to be taken at 2, A. M. if awake, and repeated every two hours.

R sulph. magnes. ℥ii. aq. menth. pp. ℥viii. pulv. jalap. ℥ii. tart. antimon. gr. ii. M. ft. mistur.

August 31st, 8, A. M.—Has slept several hours

* This powder is a preparation of the Sunderland Dispensary, and is composed of equal parts of jalap and the supertartrate of potass.

and is rather more composed, pulse 130, heat and thirst less urgent, sensation of the head nearly as before ; a part of the mixture taken ; no stools. The mixture to be continued.

August 31st, 8, P.M.—At noon, all the purgative mixture having been taken without effect, an ounce and half of castor oil was given, which has procured four dark coloured stools. Pulse 125, in other respects the same.

R pulv. ipecac. comp. gr. xii. aq. menth ζ i. M. ft. haust.

This draught to be taken at bed-time.

September 1st, 8, A. M.—Has had little sleep ; pulse 125, other symptoms as before. The anodyne enema was ordered to be injected directly, and four of the following pills to be taken every six hours.

R mass. pilul. colocynth. cum. aloe ζ i. in pilul. xii. dividend.

September 1st, 8, P. M.—Has had no stools during the last twenty-four hours ; pulse 130, considerable heat of the skin, countenance extremely anxious, much pain on pressure over the abdomen. The laxative pills to be omitted, and ʒi . of the compound powder of jalap to be taken directly, and ʒss . every two hours after, until the bowels have been freely moved.

————— 2nd, 9, A. M.—After taking ʒiiss . of the compound powder of jalap, her bowels were moved four times, the stools were copious and feculent, and she afterwards had three hours sleep. Pulse 125, other symptoms as before. Beef tea, chicken broth, and milk allowed to be taken freely.

————— 8, P. M.—Pulse 130, tongue dry, great thirst ; heat, restlessness, and anxiety much increased ; a general uneasiness over the belly, with tumefaction and pain, the latter increased by pressure ; considerable confusion of thought, with a more urgent uneasiness of the head. No stools since the morning.

An ounce and half of castor oil was immediately given in warm coffee.

September 3d, 8. A. M.—After having had four evacuations, she had some disturbed sleep ; pulse 140, countenance pale, anxious, and dejected ; impatience of light and noise ; tongue dry, intense thirst, short wheezing respiration, profuse perspirations which do not reduce the heat of the surface ; considerable enlargement with tension and tenderness of the belly, which feels as if an effusion had taken place into the cavity. The beef tea and chicken broth to be omitted, and milk and gruel substituted.

R calomel gr. xxiv. muc. g. arab. ℥i. M. ft. haust.

This draught to be taken directly.

R sulphat. magnes. ℥iiss. infus. senn. tart. ℥xi. M. ft. mistur.

Four table spoonfuls every hour until the bowels have been freely moved.

September 3d, 8, P. M.—She has had five very copious stools, which contained *many small pieces of dark coloured scybalæ* ; pulse 125 ; heat, thirst, restlessness, and anxiety greatly relieved ; swelling and pain of the abdomen considerably less. Four table spoonfuls of the purging mixture to be taken every two hours, if awake.

Soda water for common drink.

———— 4th, 8, A. M.—Has had a sleepless night, owing to the frequent operation of the purgatives ; pulse 120, countenance not so much depressed, swelling and tenderness of the belly quite gone ; still some wheezing in respiration ; no pain nor tightness of the chest ; tongue cleaner, thirst urgent ; stools dark and copious, with flocculæ of a whitish appearance floating on the surface. The purging mixture to be discontinued.

———— 8, P. M.—Three stools since the morning, similar to those last described ; abdomen free from pain, the peculiar confusion and aching of the

head continue nearly the same, and there is a degree of deafness on the left side; pulse 130, wheezing in respiration rather more troublesome since last visit.

R opii gr. i. in pilul. ii. dividend.

One to be taken directly, and the other in four hours, if sleep is not procured.

R acet. scillæ ℥ii. muc. g. arab. ℥ii. aq. puræ ℥vss. syr. simp. ℥ii. tinct. opii. gr. xxv. M. ft. mistur.

Two table spoonfuls to be taken frequently.

September 5th, 8, A. M.—Has had very little sleep; pulse 120, heat, thirst, and anxiety considerably diminished; two stools of a feculant appearance, wheezing less troublesome, slight cough, no pain about the chest. Ordered to drink freely of beef tea, chicken broth, and milk; and to take a wine-glassful of ale every two hours.

The pectoral mixture to be continued as before.

℞ decoct. cinchon. peru. ℥viii. acid sulph. dilut.
Ph. Ed. 3i. M. ft. mistur.

Two table spoonfuls to be taken every four hours.

℞ extract. hyosciam. gr. iii. pulv. ipecac. gr. ss.
cons. rosæ. q. s. ft. bol.

The bolus to be taken at bed-time.

September 6th.—Still convalescent; pulse 110, tongue cleaner, three stools, no uneasiness of the belly, appetite returning; still complains of the wheezing and the head-ache, though these symptoms are rather relieved.

———— 9th.—From the 6th to the 8th nothing of consequence occurred; the medicines were continued; she then complained a good deal of the cough and oppression about the chest without pain.

App. emp. lyttæ sterno.

September 10th.—Cough and oppression of the chest much relieved, bowels regular, appetite improving. The bolus and pectoral mixture were omitted, and the decoction of bark, with a gentle laxative, continued.

From this period she recovered very fast, and in about a month was so well as to be able to return to her ordinary employment as a menial servant.

It will appear, from the minutes of the above case, that the disease had existed rather more than ten hours before medical aid was procured, and that it had then put on a very alarming appearance.

It is now the opinion of the medical gentleman who visited the patient during my absence, that the first bleeding was much too small, and that the dose of calomel first prescribed was not of sufficient quantity to ensure that speedy and complete evacuation by the bowels, so necessary under such press-

ing circumstances; and to the inefficiency of these means he is inclined to attribute the protraction of the complaint. This avowal of my professional friend is undoubtedly very liberal, especially as his practice was more active than that generally had recourse to in puerperal fever.

Though in the first day of this patient's illness she took ten grains of calomel and rather more than three ounces of the sulphate of magnesia, yet they only occasioned two very scanty stools; and this fact points out the necessity of giving extraordinary doses of purgative medicines in the commencement of this disease, as early and free evacuations are essentially requisite to reduce the abdominal inflammation.

It will be observed, that the half drachm of calomel, prescribed at ten in the evening of the 25th of August, aided, perhaps, by the purgatives previously taken, operated briskly in little more than two hours, and produced a striking alleviation of the disease; and, furthermore, that the patient, from the use of purgatives, continued, upon the whole, in an improv-

ing state until the morning of the 29th, when there was an evident recurrence of the violent symptoms.

On account of the extreme anxiety and uneasiness of this poor woman, it was thought adviseable at that period to order the anodyne enema to obtain, if possible, a temporary respite from the pain and general irritability of the system; which intention being in some degree effected by the injection, the purgative medicines were again persevered in without loss of time. So great was the torpor of the bowels, that two ounces of the sulphate of magnesia and an ounce and half of castor oil produced no effect upon them; for which reason a scruple of calomel was administered; and it soon purged the patient freely, and considerably mitigated the urgency of the disease; which, nevertheless, at times, became very severe, and that more especially on the 3d of September, when it seemed to be hastening fast to a fatal termination; but another large dose of calomel was given, in conjunction with the sulphate of magnesia, and, operating powerfully, it effected a most remarkable change for the better; and, what is rather

extraordinary, brought away several dark-coloured scybalæ, which from their appearance had been retained in the bowels for a considerable length of time, notwithstanding the large quantity of purgatives previously exhibited.

The recovery of this young woman will, perhaps, be thought the more remarkable when it is made known, that before her confinement she was affected with uncommon anxiety of mind, caused by the loss of a good moral character, and, throughout the whole continuance of her complaint, imagined that she could not possibly survive. Moreover, the place of her abode was a very small ceiled garret, situated in one of the most unhealthy and noisy parts of the town; so that this, with many other concurring disadvantages, contributed to aggravate the disease, and render her situation the more critical.

ADDITIONAL COMMUNICATIONS.

APPENDIX III.

LETTER ADDRESSED TO THE AUTHOR, BY MR. J. WOLFE,
SURGEON IN CHESTER-LE-STREET, NEAR DURHAM.*

Chester-le-street, August 4th, 1813.

DEAR SIR,

In reply to your inquiries, I beg to inform you that since last January several cases of puerperal fever have fallen under my observation, but none of them were so severe as the case of the lady whom you lately attended with me in the neighbourhood of Chester-le-street. Since you appear to wish me to give you some account of my general method of treatment, rather than details of particular circumstances, I shall endeavour to comply with your request in as few words as may be.

* In the course of his enquiries, the author received this and the following letter ; and, as they contain many valuable hints on puerperal fever, he has, with the permission of the writers, inserted them.

Whenever I find that any patient after her labour has a very quick pulse, hot skin, thirst, oppression, abdominal pain and tenderness, I immediately open her bowels freely with calomel, castor oil, or infusion of senna, and occasionally assist the operations of these medicines by a cathartic enema, to procure speedy evacuations. If, after the contents of the lower part of the bowels have been dislodged, the stools are of a dark-brown colour, resembling coffee-grounds, very copious, of the consistence of thick gruel, and of a fetid smell, I am led to suspect the existence of puerperal fever, and continue the laxative medicines in order to obtain several free stools daily, till the peritoneal pain and tenderness are considerably abated, and the pulse diminished in frequency; occasionally, however, I prescribe an anodyne draught at bed-time, or an anodyne injection, to suspend the action of the intestines and procure some ease and rest.

During the last sixteen years, I have always trusted to very copious purging for the cure of puerperal fever, and to effect my purpose have often been

obliged to keep the bowels very free for several days successively, and in some severe cases, even for two or three weeks before the symptoms of the abdominal inflammation have completely subsided. In short, I am never afraid of my patients having too many stools, as long as abdominal pain and tenderness, and fever continue. When I examine the alvine discharge, I do not expect to find ordinary stools, but evacuations of a peculiar nature, and am often obliged to explain this matter to nurses, who are in general greatly alarmed at so much purging.

From the commencement of the complaint to its termination, I have almost always observed that the stools have not had a natural appearance, and frequently that hard scybalæ have only been discharged when the stools were becoming natural towards the end of the disease. As it has always been my custom to inspect the evacuations, I know from experience that I can detect the presence of puerperal fever, by their appearance and consistence, taken in conjunction with other symptoms described in the former part of this letter.

Having been accustomed to treat the puerperal fever solely by active purging, I can speak decisively in favor of that mode of practice ; nor do I recollect that I ever made use of the lancet, except in one case attended with symptoms of acute hepatitis, in which plentiful bleeding from the arm produced a remarkably good effect.

It has sometimes happened in my practice that one brisk purge only has been necessary in the beginning of the complaint ; but in those cases the free evacuation of the unnatural stools went on for several days, and, like a kind of spontaneous diarrhœa, carried off the disease.

Though I said above that I treated the complaint solely by purging, yet I do not omit to give the saline mixture in the state of effervescence, when sickness or vomiting take place, and afterwards continue it as a febrifuge.

The late Dr. Clarke of Newcastle relied entirely upon the purgative plan of treatment, and I freely

acknowledge that I first made use of it at his recommendation, having had the good fortune to attend a patient labouring under puerperal fever with him, at the commencement of my obstetric practice.

My practice in puerperal fever has been generally successful, but, as I always see my patients very often after their delivery, I have had it in my power to combat the disease in its first attack; which circumstance gives the practitioner great advantage, and to which I am partly inclined to ascribe the fortunate result of the cases that have come under my care.

I am, dear sir,

Your's, very truly,

JOHN WOLFE.

To JOHN ARMSTRONG, M. D.

LETTER ADDRESSED TO THE AUTHOR, BY MR. W. FIFE,
SURGEON IN NEWCASTLE-UPON-TYNE.

Newcastle, September 10th, 1813.

DEAR SIR,

With respect to the puerperal fever which prevailed here last year I cannot say much, as I only attended one unfortunate case where the disease was far advanced before I saw the patient; nor am I able to give you much information relative to a similar fever which prevailed amongst lying-in women this summer, at Newburn and the vicinity. It is remarkable, however, that the fever which took place in Newcastle was confined to the patients of one female practitioner, and that which occurred at Newburn, in like manner, to those of one accoucheur. I have been informed, on good authority, that almost every patient died who was seized with this formidable disorder.

In answer to your enquiries respecting the result of my experience in cases of puerperal fever, I think myself fortunate in being able to state, that although

I have practised midwifery in this town and neighbourhood upwards of twenty years, I have not seen much of the disease.

I trust, however, from the previous opportunities I had of observing the appearances after death, and the observations I have since made in the few cases which have occurred in my own practice and that of others, I am enabled to form a tolerably correct opinion of its nature, and consequently feel no hesitation as to its treatment.

Dissections have shewn, and I believe it is now very generally admitted, that it is in its first stage an inflammatory disease, chiefly affecting the peritonæum, and of course often extending to almost every viscus in the pelvis and abdomen which receives a covering from that membrane.

It is not necessary that I should enter into the consideration of the various causes assigned as capable of producing this disease, but there is one to which I wish particularly to draw your attention, as it ap-

pears to me of great practical importance, viz. a loaded state of the bowels.

Pregnant women are very apt to deceive themselves in this respect, some neglecting altogether the state of the bowels, while others, from a fear of doing harm, even by the occasional use of mild but effectual opening medicines, content themselves by taking now and then a little magnesia, which they imagine has done enough when it produces a partial loose evacuation, and thus I believe they very often lay the foundation of a great deal of future distress and danger.

From my views of this subject, you will readily anticipate the treatment. If called in time, I promptly take away as much much blood as existing circumstances seem to require, and repeat the operation if necessary, paying due regard to the strength of the patient, with as little loss of time as possible after the first bleeding. I next have recourse to active purgatives, giving them in divided doses at short intervals, until a full and satisfactory effect is pro-

duced. I have been astonished on seeing the great quantity of hard, dark-coloured, offensive, feculant matter that has been discharged by this means, and almost always with evident relief of symptoms. I never think it safe to trust to the nurses' account in these cases, but inspect the evacuations, and continue the use of purgatives day after day, until the colour and appearance of the stools become natural. It is sometimes found very difficult to open the bowels in this disease, and liquid purgatives are apt to be rejected by vomiting; when this symptom has occurred I have given calomel with great freedom and most decided advantage, employing, at the same time, purging injections. These are the means I chiefly rely upon in the treatment of puerperal fever, observing in every respect, in its first stage, a strict antiphlogistic regimen, and, as opportunity serves, having recourse to saline, antimonial, and such other medicines as circumstances indicate in the course of its progress.

It is my firm belief, when the practitioner is called in time, that the disease may generally be sub-

duced by the prompt employment of these means, but it too often happens that the precious opportunity is lost before advice is sought for, and the practitioner, when called, feels himself placed in the painful situation of witnessing the fatal ravages of a disease it is too late to remedy.

Wishing that your enquiries may lead to the establishment of a successful practice in this formidable and important disease,

I am, dear sir,

Your obedient servant,

WILLIAM FIFE.

TO JOHN ARMSTRONG, M. D.

OBSERVATIONS ON THE WEATHER.

APPENDIX IV.



OBSERVATIONS ON THE STATE OF THE ATMOSPHERE BETWEEN
JANUARY AND OCTOBER, 1813, THE TERM IN WHICH THE
PUERPERAL FEVER WAS MOST PREVALENT.

THE following brief account of the weather is extracted from the diary of an acquaintance; and the author regrets that it contains no barometrical and thermometrical observations. One of the principal reasons for inserting it is, that the puerperal fever prevailed in different places during the same period.

In the beginning of January, the weather was very mild and clear, with light airs from the west and south-west; about the middle, there was a strong frost, with some snow; and the day afterwards,

heavy rain, the wind blowing from the south-east; from the 16th to the end, it was mostly clear and frosty; very little snow fell, and the wind varied from the south, west, and north. The complaints most prevalent in Sunderland in this month were low fevers, rheumatism, and dyspepsia.

February was ushered in by fresh breezes from the west and south-west, and continued, for the most part, fair till the 10th, when hard squalls came on from the west-south-west, with showers of rain, sleet, and snow; from the 11th onward, there were strong gales from the south, and west, and frequent heavy rains. Low fevers were rather more prevalent this month, and the number of rheumatic and dyspeptic cases were nearly the same as in the last.

March was remarkably mild and clear for the season; very little rain fell, and the wind was light and variable; it shifted chiefly from the west to the west-north-west throughout the month. Low fevers most entirely disappeared, though rheumatic and dyspeptic complaints were nearly as numerous as before.

From the 1st of April to the 5th the wind blew from the west-south-west or from the east-north-east, much snow and sleet fell, and it was intensely cold; from the 10th to the 21st the wind was almost constantly in the west; the weather was fine and dry, and the early blossoms were advanced more than is usual at the season. From about the 22nd to the end of the month, high gales from the east-north-east and north-east, with rain, sleet, and snow, which did much injury to the fruit-trees. In this month a few cases of low fever again occurred, hardly any of rheumatism, or dyspepsia, but some of catarrh.

The commencement of May was rainy and very cold, and the wind continued in the north-east or south-east till about the middle, when it changed to the south-west, and some rain and thunder followed; from the 16th it blew from the south-east; and the weather was very wet and hazy till the 25th, on which day it became warm and dry, and continued so till the end of the month.

The long continuance of the cold east winds destroyed almost all the early blossoms; and the sides of

those hedges and trees which were exposed to its successive blasts appeared as if they had been scorched, exhibiting such effects as are attributed to the Sirocco in Sicily. In this month, there were some low fevers, and rheumatic complaints, and several dyspeptic and pulmonic cases.

The weather was alternately warm and cold till the 6th of June, during which some rain fell, and the wind was principally from the north-east; from this time there were light south-east breezes, with very mild weather till the 11th; after which it became for a short time rather thick and hazy, the wind blowing from the south-west. From about the 16th to the end of the month it continued cold and hazy for the season, and the wind veered from the north-east to the south-east. In the beginning of July, there were strong gales from the east-south-east and north-north-west, with rain, followed by some tolerably calm clear days, with fresh gales from the north and south-east. From the 16th to the 20th, the wind was principally in the west, and there was a good deal of rain, though the weather

upon the whole was very sultry. One or two cold days afterwards occurred with a north-east wind ; but the weather again became sultry, and there was much thunder, lightning, and rain, the wind blowing either from the south-west or south-east. During these two months, low febrile, rheumatic, and dyspeptic complaints were still most prevalent, and there were some cases of catarrh and dysentery.

From the 1st to the 9th of August, the wind was from the south-west and north-west, the weather fine, and some light showers of rain ; from the 9th to the 12th, the wind shifted from the west-north-west to the north and south-west, and the atmosphere was clear and sultry ; from the 13th to the 20th, fresh gales from the north-west and west, and occasional showers of rain ; from the 21st to the 26th, fine, calm, clear weather, and the wind in the north-east and south-east ; from that time till the end of the month, it mostly blew from the north-east ; there was very little rain, the air cloudy and rather cold for the season. There were several cases of typhus this month, some of scarlet fever, dysentery, rheumatism, enteritis, and cholera.

From the 1st of September to the 7th, the atmosphere was sometimes hazy, and sometimes clear ; light airs from the south-west, with slight showers ; from the 7th to the 12th, the wind shifted from the west-south-west, north-west, and north-east ; some rain fell, and the weather was alternately fair and cloudy ; from the 13th to the 16th, strong gales from the west-south-west, cloudy and rather rainy ; from that time to the 20th, the wind was variable, with fine, clear weather ; from the 20th to the 29th, it was in the north-east and north, and the air cloudy and cold ; on the 30th, fresh breezes from the east-south-east, and the day was warm and clear. The diseases which prevailed most this month were typhus, scarlet fever, rheumatism, dyspepsia, and pneumonia.

The author, not having been able to trace any evident connection between the variations of the weather, and the *increase* and *decrease* of the puerperal fever, has thought it unnecessary to state the number of cases which occurred in each month.

FINIS.

T. Reed, Printer, Sunderland.

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PRACTICAL ILLUSTRATIONS

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